Tausand
Tempico Software 1.2.0
Software for Tempico TP1004

# User's manual

Rev 1.1

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Contents

1   Definitions

1.1   Sampling time

The sampling time in an experiment refers to the time window during which data is collected. For example, if we count how many times the laboratory door opens over the course of 2 hours, the sampling time would be 2 hours.

1.2   Edge type

The edge type indicates the type of transition that the time-to-digital converter (TDC) must use to start or stop a measurement. There are two main types: rise edge and falling edge. An event arriving at a TDC must be a short-duration pulse that exceeds the device's resolution. Therefore, if the transition goes from a low level (0) to a high level (1), we call it a rise edge. On the other hand, if we want to register an event when the signal transitions from a high level (1) to a low level (0), we call it a falling edge. The Tausand Tempico device allows for configuring the edge type for both the start signal and the stop signals. Below is a time diagram representation with a rise edge configuration for both the start signal (red) and the stop signal (blue).
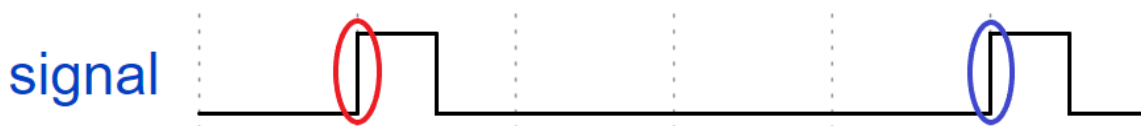
Now we can see the representation of a *falling edge* configuration for the start signal (red) and the stop signal (blue).

1.3   Lifetime measurements

Lifetime measurements are used to determine how long a molecule, particle, or physical system stays in an excited state before returning to its ground state, or to quantify the duration of a short-lived compound. Most of these measurements are performed by measuring the time difference between two photons.

One of the most widely used techniques for this type of measurement is time-correlated single photon counting (TCSPC). This technique relies on the emission of a pulse from a laser, which acts as a trigger to start the measurement. If the laser's frequency is correct, it partially excites the

sample. Subsequently, the sample decays and emits a photon back. Some of these photons are detected by an electronic system, which converts them into electrical pulses. These electrical pulses mark the end of the measurement. The time difference between the start pulse and the stop pulse is mapped onto a histogram. Ultimately, the obtained histogram provides information about the temporal distribution of the sample's exciting state.

Tempico software is capable of capturing data in techniques that involve the emission and detection of pulses, such as in single photon counting. Several lifetime measurement methods can be applied depending on the type of analysis being performed.

1.3.1 Fluorescence Lifetime measurements

This technique involves the use of a fluorophore to measure the time it takes to return to the ground state from the excited state. It is primarily used for the analysis of chemical and biological samples. The analysis is conducted by creating an environment with a fluorophore, and any change in the sample causes a modification in the fluorescent environment. In this way, temporal differences associated with interactions or changes in the sample can be obtained.

2   Description

Tempico Software is designed to facilitate the use of the Tausand Tempico TP1004 devices. It is a graphical interface that allows for time histogram measurements and *lifetime* measurements. From the software, it is possible to configure the device, as well as save the measurement data and generated graphs in various text and image formats, respectively. Additionally, Tempico Software provides extra functions, such as creating custom adjustments for certain graphs, and allowing monitoring the device to ensure the measurement is being performed correctly.

3   Specifications

Tempico software is designed to run on devices with low requirements, allowing any laboratory to use it. The minimum requirements for Tempico Software to function are as follows:

- **OS**: Windows 7 Home Premium, Windows 7 Professional, Windows 7 Ultimate

- **CPU**: Intel Pentium Dual-Core E5200

- **RAM**: 1 GB
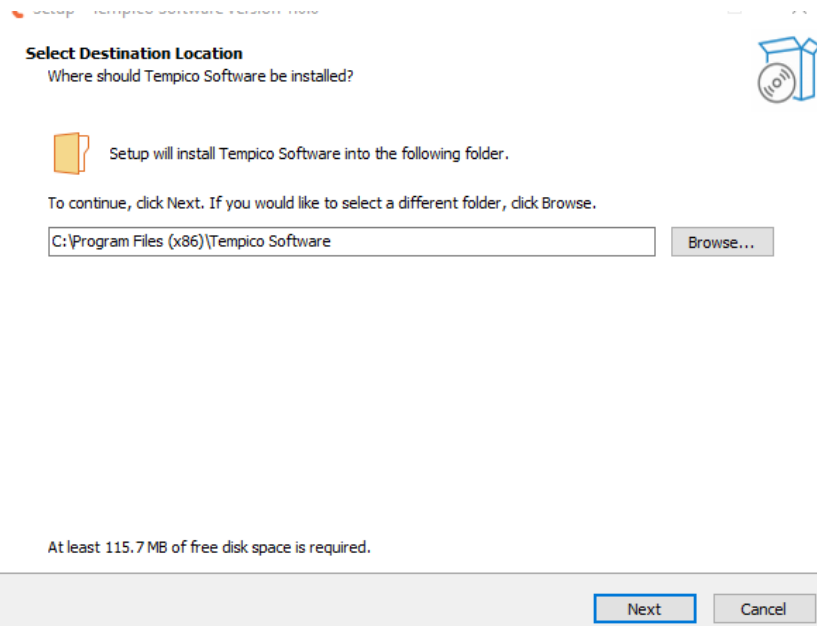
- **Storage**: 500 MB available

For measurements with large data sets or long durations (greater than 6 hours), the performance of Tempico Software may decrease. However, on higher-performance devices, this issue is mitigated.
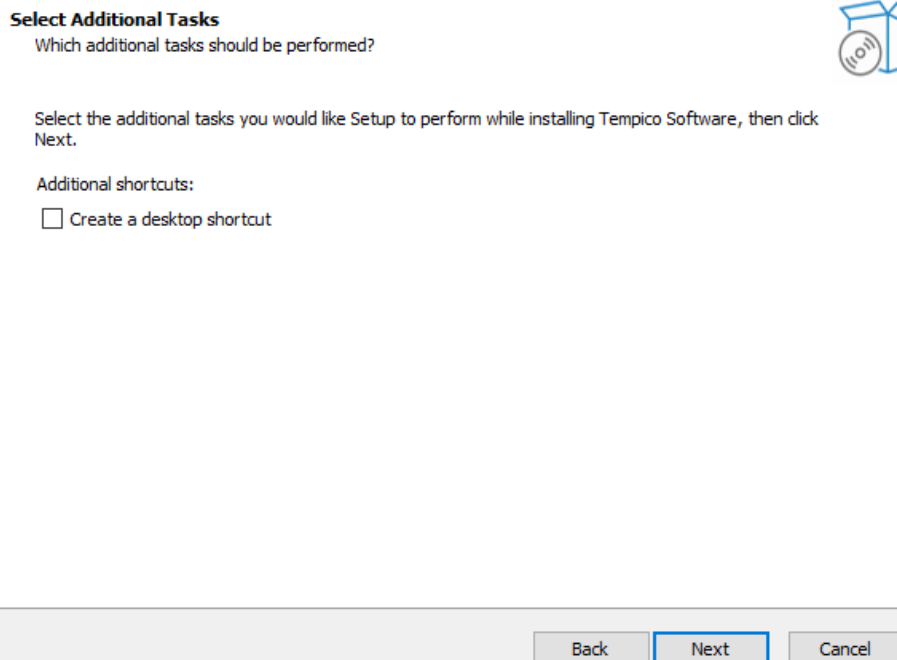
4   Installation

4.1   Windows

The first step is to download the software from the Tausand website: https://www.tausand.com/downloads/. From this page, an executable file will be downloaded, which should be run to complete the installation by following the steps provided.
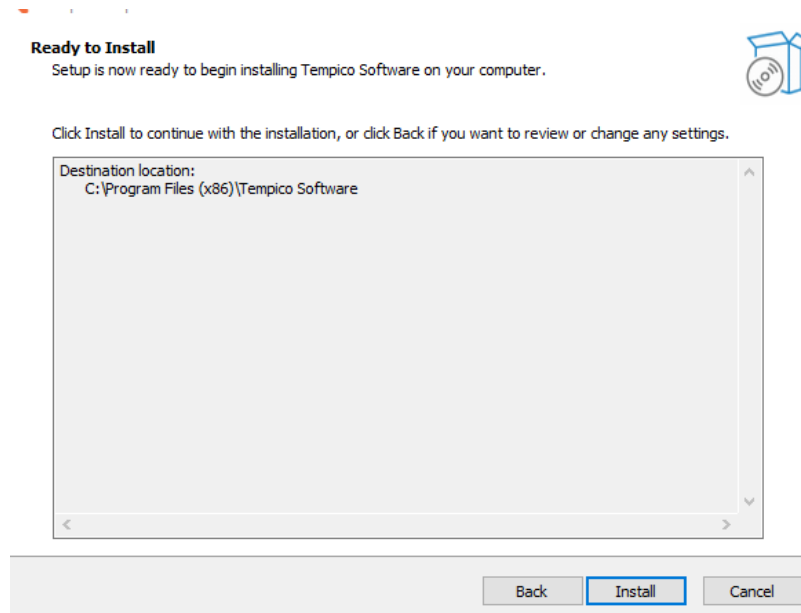
When opening the installer, it will request permission to run, to which we should respond affirmatively. After that, a window will appear asking us to select the installation path. We can choose the desired path; by default, the software will be installed in the Program Files folder.
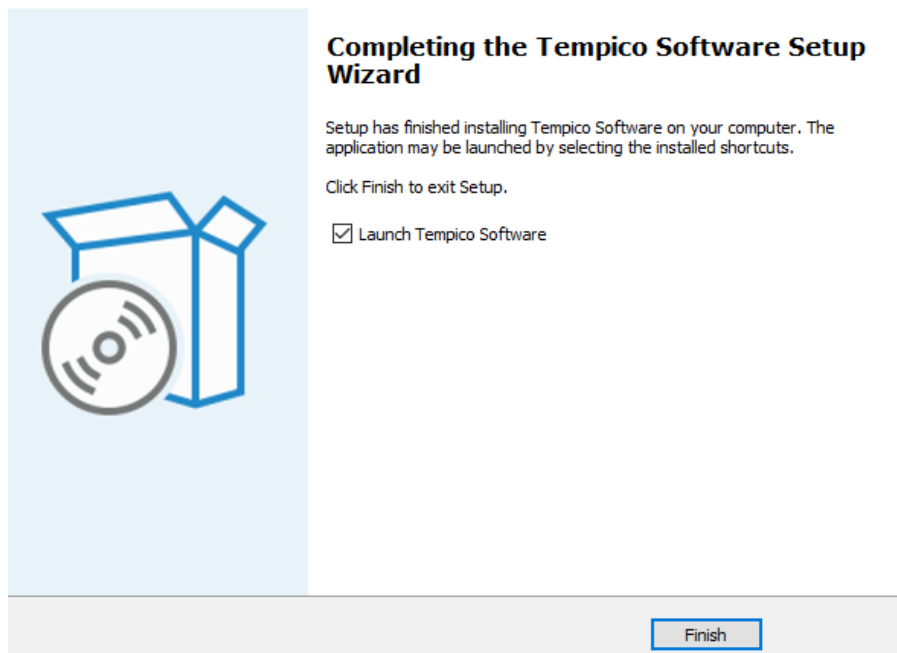
Select Destination Location
Where should Tempico Software be installed?

Setup will install Tempico Software into the following folder.

To continue, click Next. If you would like to select a different folder, click Browse.

C:\Program Files (x86)\Tempico Software   Browse...

At least 115.7 MB of free disk space is required.

Next   Cancel

Next, we will be asked if we want to create a shortcut on the desktop. To do so, we should check the corresponding box.

Select Additional Tasks
Which additional tasks should be performed?

Select the additional tasks you would like Setup to perform while installing Tempico Software, then click Next.

Additional shortcuts:
☐ Create a desktop shortcut

Back   Next   Cancel

After completing these two steps, a tab will open showing us the installation path, allowing us to verify it before proceeding with the installation.

Ready to Install
Setup is now ready to begin installing Tempico Software on your computer.

Click Install to continue with the installation, or click Back if you want to review or change any settings.

Destination location:
C:\Program Files (x86)\Tempico Software

Back | Install | Cancel

Once the installation process is complete, we can click "Finish". It is important to check whether we want the program to run immediately, by checking or unchecking the corresponding box.

Completing the Tempico Software Setup Wizard

Setup has finished installing Tempico Software on your computer. The application may be launched by selecting the installed shortcuts.

Click Finish to exit Setup.

☑ Launch Tempico Software

Finish

4.2   Ubuntu

On Ubuntu, you only need to download the compressed (.zip) file from the official page. Once downloaded, extract its contents and run the AppImage file found inside. With this process, Tempico Software will be ready to use on your system.
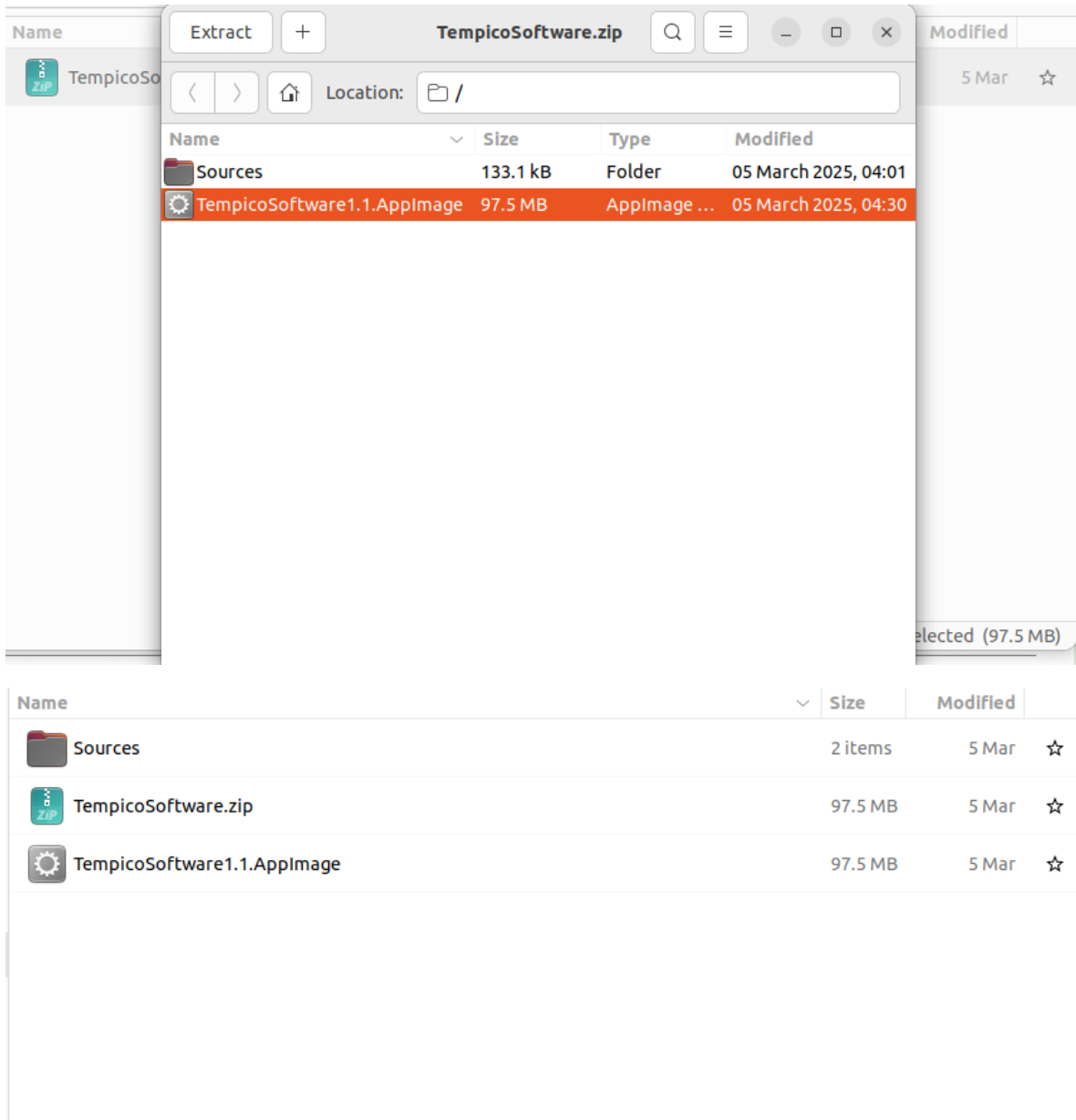
4.3   Mac

5   Software operation

The software is used in the same way across all operating systems; however, the preparations for running the software may differ depending on the operating system.

5.1   System configuration

To ensure the proper functioning of Tempico Software, it is necessary to perform certain validations on the operating system.

5.1.1 Windows

You should ensure that the Tempico device is recognized by the COM ports. To do this, follow these steps: If, when connecting and turning on the device for the first time, a window appears indicating that the Tempico device is being configured, it means that Windows has recognized it correctly. If this does not happen, you can access the Device Manager without having the device connected and navigate it to the COM and LPT ports section. Then, connect and turn on the device. The port table should be updated; if it does not, close and reopen the window. When doing so, a new COM device should appear, indicating that the Tempico has been correctly detected.

5.1.2 Ubuntu

ls /dev/tty*

In this case, it is also necessary to verify that the ports are correctly detecting the device. To do this, we will use the command above, which lists the devices connected to the serial ports. First, we will run this command without the Tempico device connected and then run it again with the device connected. We will observe which new device has been detected

sudo adduser "username" dialout

If an error occurs indicating that the serial port could not be opened, it is possible that the user does not belong to the dialout group. To resolve this, we will execute the command above. This will allow us to access the system's serial ports.

Si el comando no es suficiente y el software sigue lanzando errores debe verificarse cual es el puerto tty que se esta usando y debe ejecutarse lo siguiente:

sudo ch mod 666 /dev/tty"port"

5.1.3 Mac

ls /dev/tty.*

To verify that the device is correctly connected to Mac, we must, with the Tempico turned off, execute the command above. This will provide a list of connected devices. Then, we run the command again with the Tempico turned on and observe which new port appears in the list.
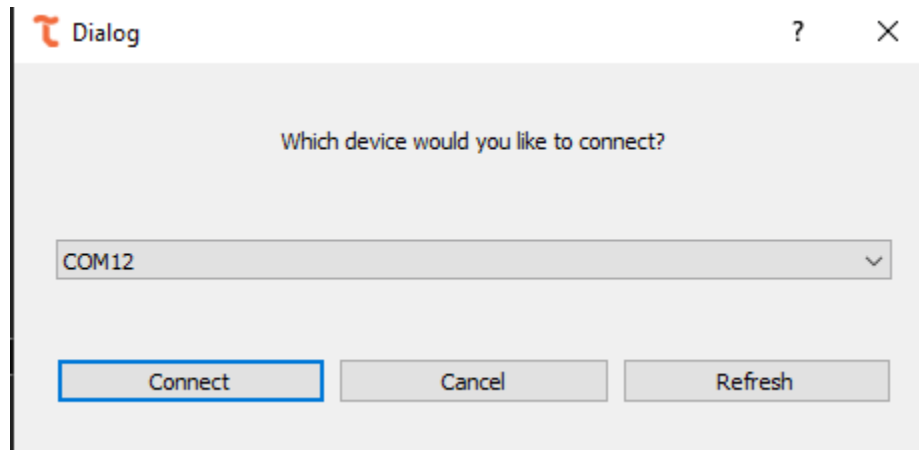
If the device is not detected, the software will not recognize the connection, making it impossible to use the software. In this case, please contact Tausand support at: support@tausand.com.

5.2   Open the software and select a Tempico device

When opening the software, an image with the program's logo is displayed, followed by a window that allows you to select the port to which you want to connect the device.
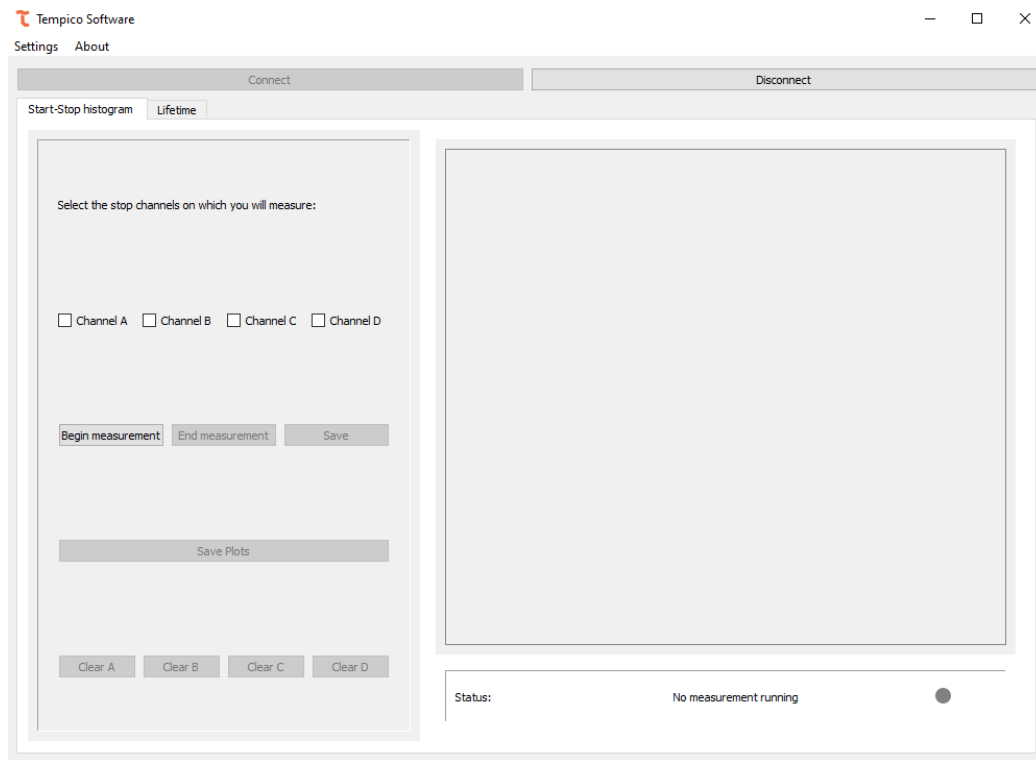
If the software is opened and the device is not turned on, the window will not recognize the connection. Therefore, it is necessary to click the "Refresh" button to update the list of ports with a Tempico device.
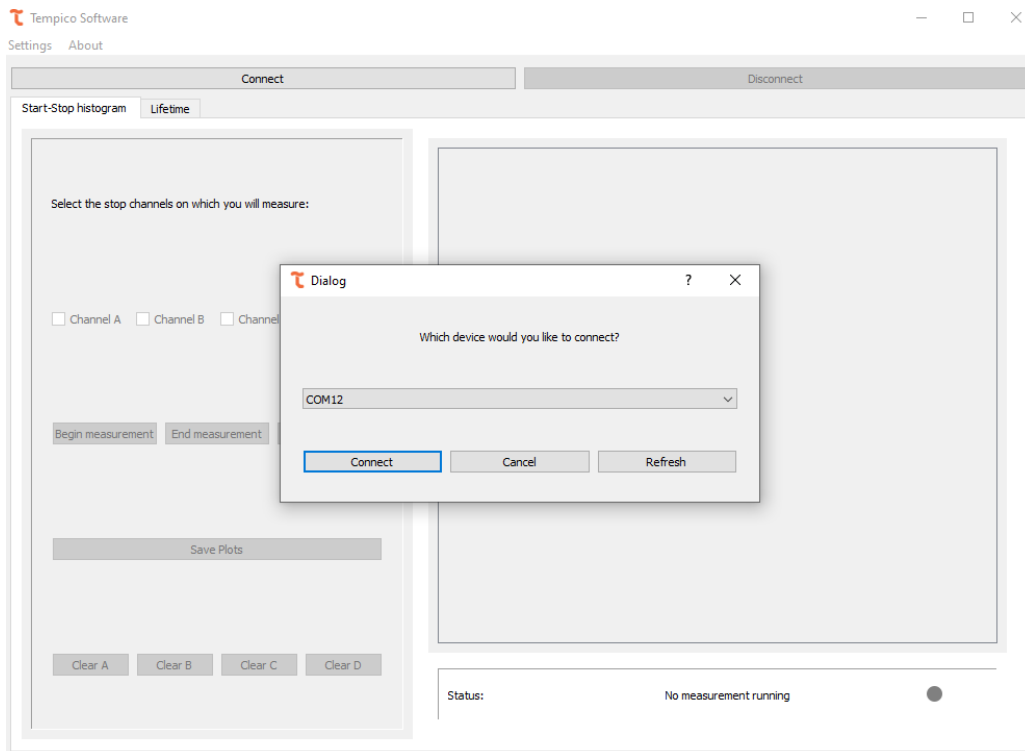
Once connected, the software will open with all options enabled for use. The software always opens in the histogram window.


If "Cancel" is selected or the dialog box is closed, the options to select a channel or start a measurement will not be available.
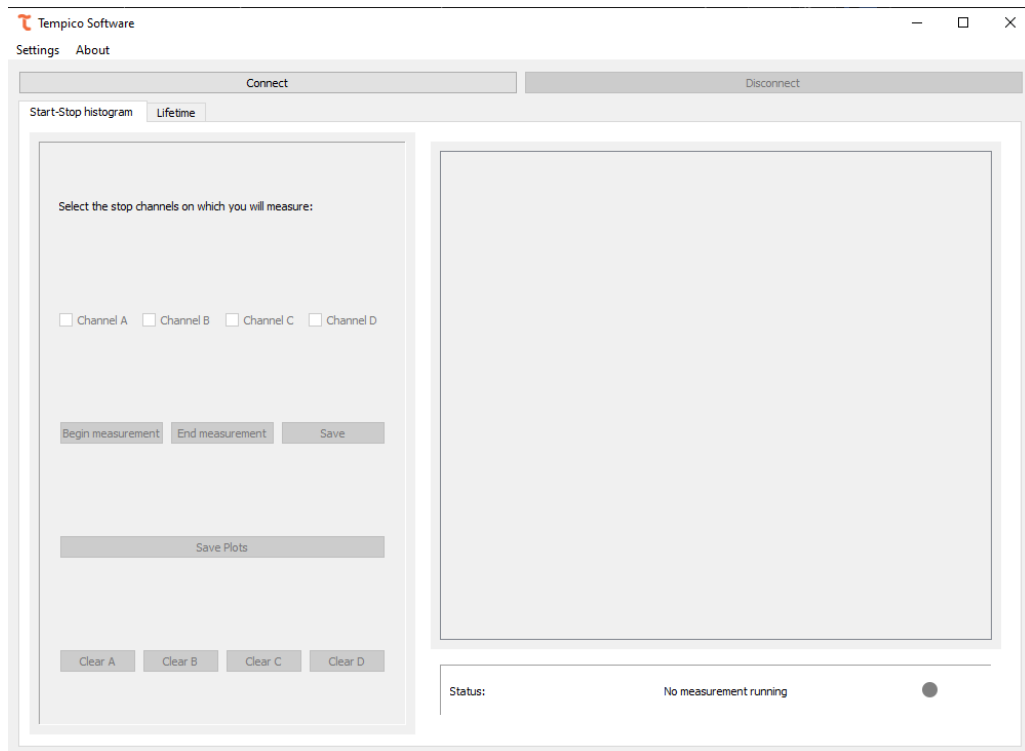
If this happens, we can click the "Connect" button again to search for devices.

It is also possible to disconnect the device if we want to use another Tempico. To do so, click the "Disconnect" button. If an error occurs while connecting to the device, the following error window will be displayed:
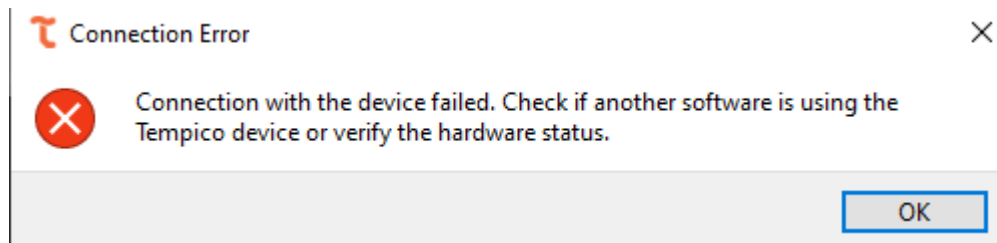
If this happens, it should be verified that no other program has established communication with the Tempico, and ensure that the USB connection, whether the cable or the physical port, is in good condition. If no issues are found after verifying this, support should be contacted to find a solution to the problem.

5.3   Channel settings

Once the connection with the device is established, it is possible to access the settings for each channel. To do so, go to the tab at the top, select "Settings," and then choose "Channel Settings," where you can view the current settings of the device:
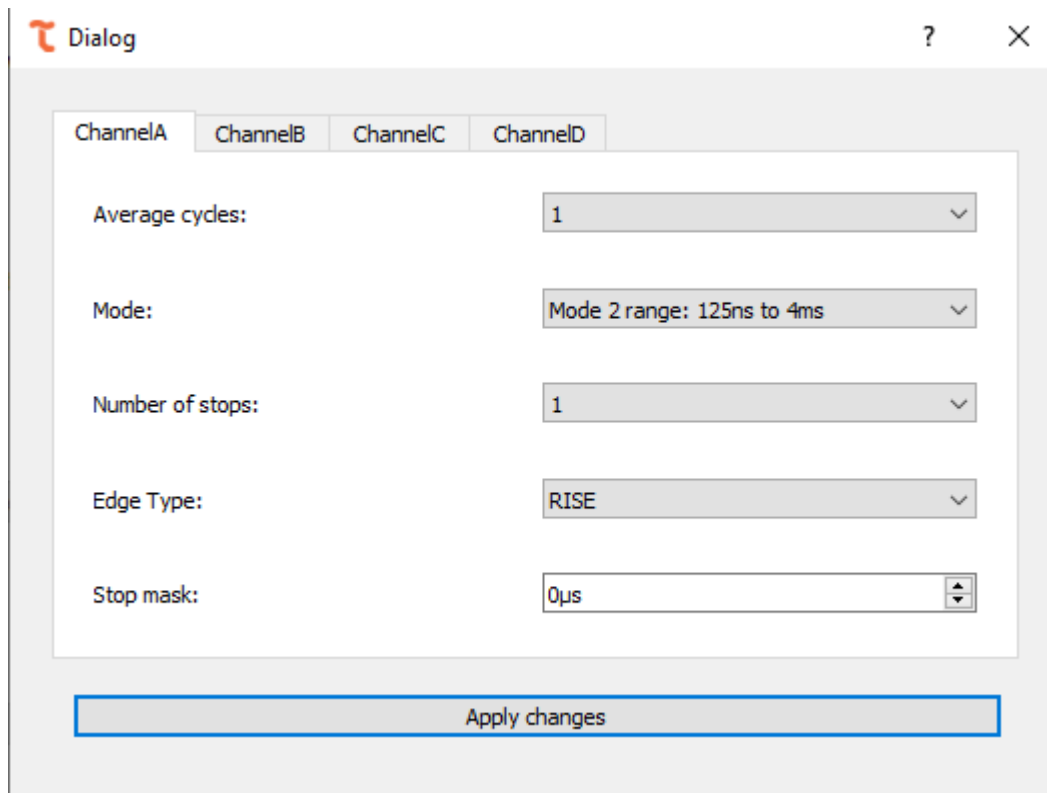
For each channel, you can modify the number of average cycles, the mode that defines the time range for measurements, the number of stops, the edge type and the stop mask. All these options provide a dropdown menu with the options allowed by the device (refer to the Tausand Tempico manual for more information), except for the stop mask.

Average cycles:	1 ⌄
Mode:	1
	2
	4
	8
	16
	32
Number of stops:	64
	128

Mode:	Mode 2 range: 125ns to 4ms ⌄
	Mode 1 range: 12ns to 500ns
	Mode 2 range: 125ns to 4ms

Number of stops:	1 ⌄
	1
	2
	3
Edge Type:	4
	5

Edge Type:	RISE ⌄
	RISE
	FALL

For the "Stop Mask," you can enter a number between 0 and 4000 µs.

| Stop mask: | 4000µs ⇅ |

Once the desired values have been changed, click the "Apply Changes" button to transmit the changes to the device. To verify the changes, you can return to the tab and check that the values are the same as those previously set.

5.4   General settings

The software features another window that displays the options affecting all channels of the device, including the start channel. To access it, go to the top, select "Settings," and then click on "General Settings":

τ General settings   ?   ✕

| Threshold voltage: | 1.00 ⇅ |
| Number of runs: | 1 ⇅ |

Save changes

From there, it is possible to set the "Threshold Voltage" and the "Number of Runs" for the measurements. The "Threshold Voltage" value allows a range between 0.90 and 1.60, with increments of 0.01, while the "Number of Runs" allows up to a value of 1000 (for more information

on these settings, refer to the device manual). Once the changes have been made, click on "Save Changes," and to confirm, return to the tab and check that the values are the same as those set.

5.5   Start-Stop Histogram measurements

"Start-stop" measurements are those that capture data from the basic functionality of the Tempico device. When a start pulse is received and, subsequently, a stop pulse arrives, the temporal difference between the two pulses is obtained. This point is plotted on a frequency histogram.

5.5.1 Perform a measurement

To start the "start-stop" measurements, the channels to be sampled must be selected. To do so, check the corresponding checkboxes located on the left side of the window.

Afterward, click on "Begin Measurement" (Begin measurement). Depending on the number of channels selected, the corresponding graphs will be created on the right side of the window. Once the measurement begins, a histogram will be obtained for each channel.
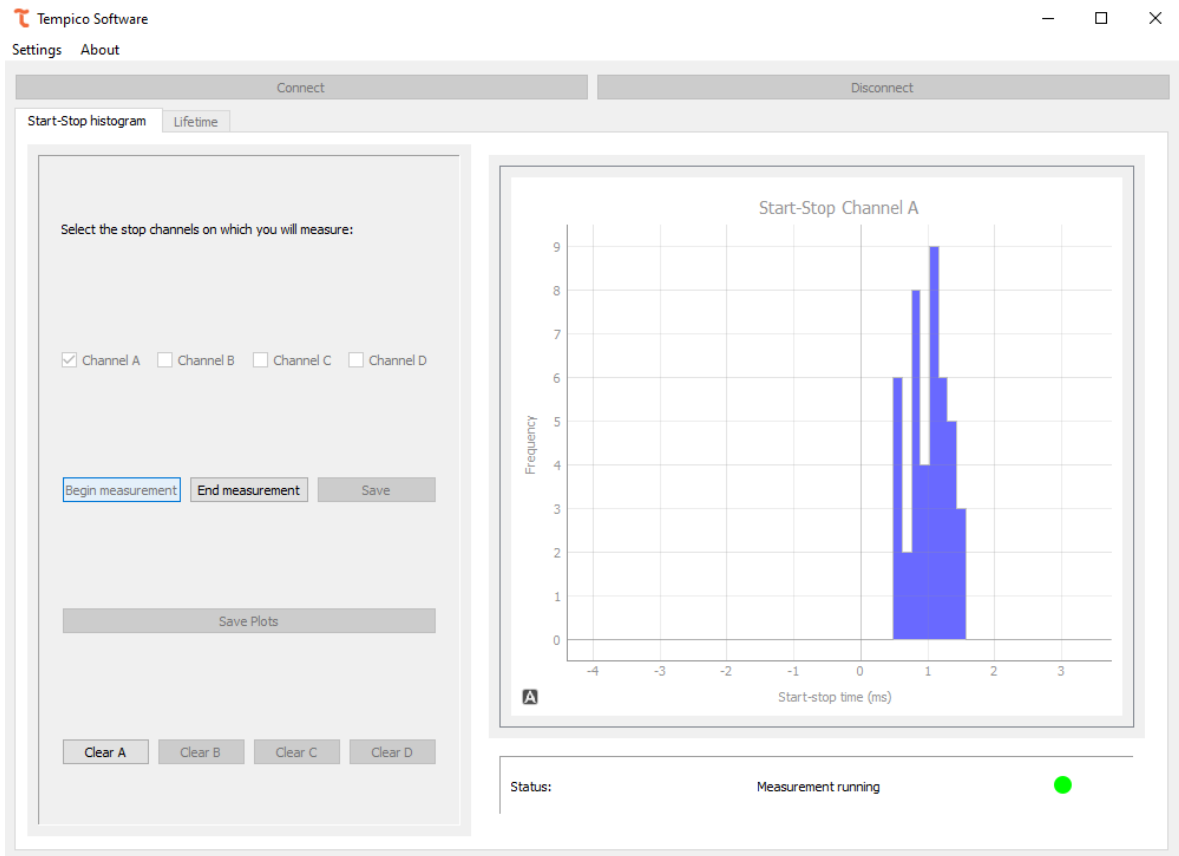
It is possible to interact with the graphs generated for each channel, either by dragging the range or adjusting the zoom with the mouse wheel. The histogram is generated according to the zoom level of the plot. Therefore, by zooming in and examining the range in more detail, more precise points will be obtained, indicating where each data point falls.
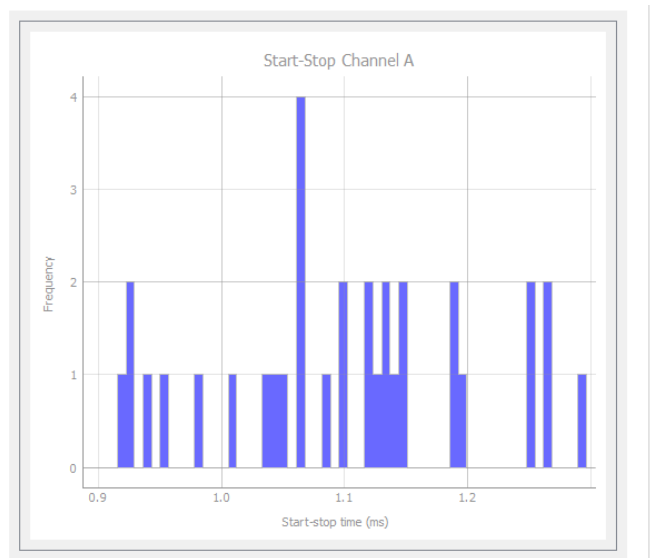
Conversely, if we increase the temporal axis range, the number of bars will decrease.
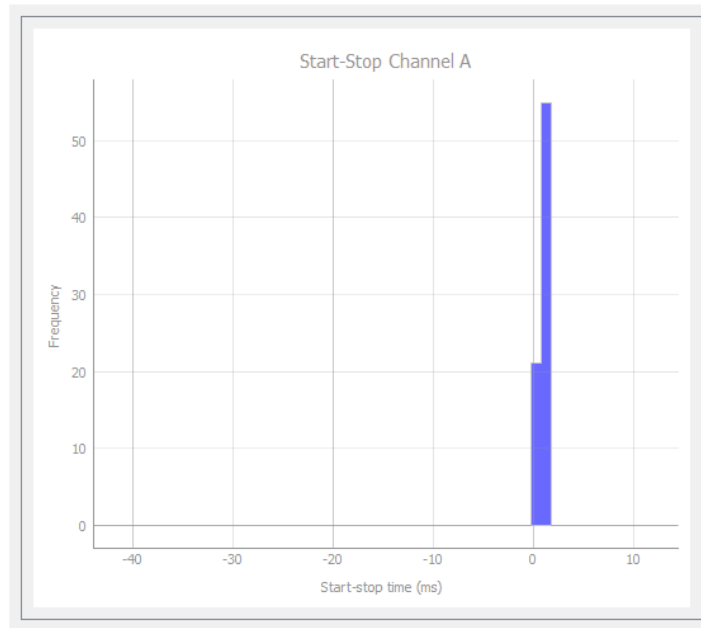
Right-clicking on the graph enables additional options for interacting with it, such as manual zoom on each axis, changing the selection mode with the mouse, or exporting the image. Since these options come from the library used to generate the graph, it is not recommended to interact with the graph through these functions. However, the user is free to use them if desired.
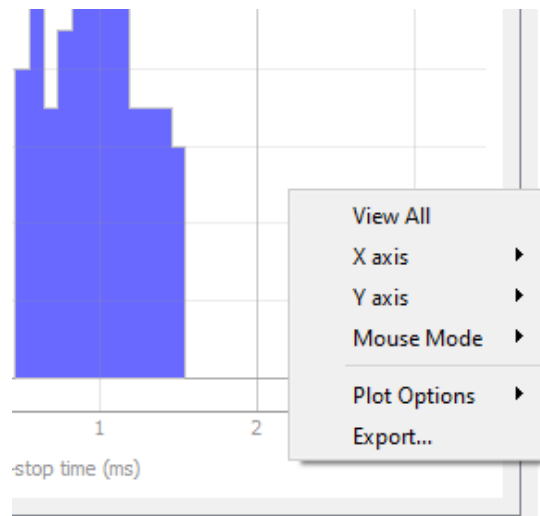
The status bar indicates whether the measurement is being carried out correctly. If any channel is not receiving data, the status bar will display a message to indicate this.

If the start channel is not receiving data, the following message will be displayed:
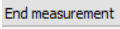
Status: No measurements in channels: Start   ●
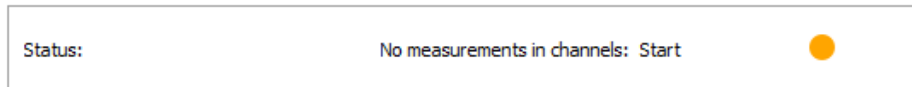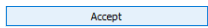
A possible solution to this issue is configuring the threshold voltage. It is recommended to set it to 1.6 V and check if the measurement is performed correctly. If the error persists, try different values for this parameter. If the issue continues and it is determined that it is not a fault in the setup or the input signal, Tausand support should be contacted.

Start-stop histograms are designed to take measurements indefinitely. Once the experiment is considered complete, click the "End Measurement" button (End measurement) to stop data collection. If you wish to clear the data during the experiment, there's no need to stop the measurement. At the bottom of the left menu, there are "Clear" buttons to erase both the data and current graphs. Four buttons are available to clear data for each channel independently (Clear A , Clear B , Clear C , Clear D).

5.5.2 Save data and plots

If the user wishes to save the graphed data, they should click the save button (Save), which will open a menu allowing them to select the format in which to save the files.
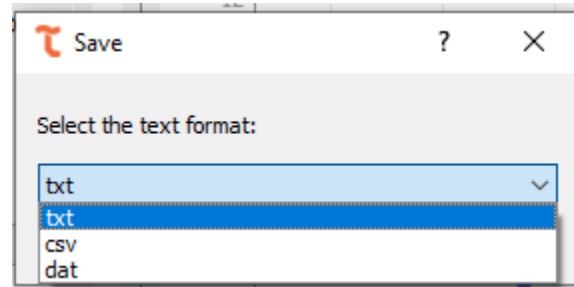
After selecting the desired format, click the accept button (Accept), which will display a dialog box indicating that the file has been saved successfully
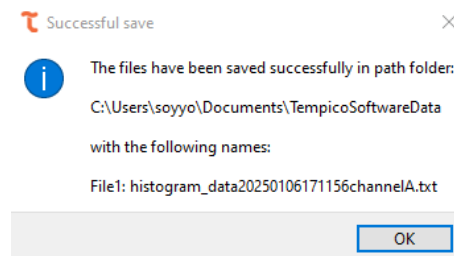
Files are saved in all operating systems in the "TempicoSoftwareData" folder within "Documents." By default, this folder is automatically created when the program is opened for the first time.
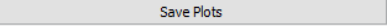
The data is saved in the same format. First, it includes the configuration applied when the data was collected, followed by the raw histogram information. This allows the user, if desired, to later manipulate the data according to their needs.
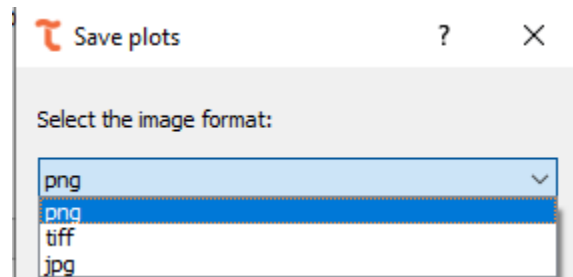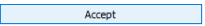
If the user wishes to save the graphs generated by the software during the measurement, they must click on the "Save Plots" button (Save Plots). A window will then open, allowing them to select the image format.

After selecting the format, click the "Accept" button (Accept). As with the previous case, a dialog box will appear indicating that the image has been successfully saved. The image will be saved in the same location as the text files, across all operating systems.
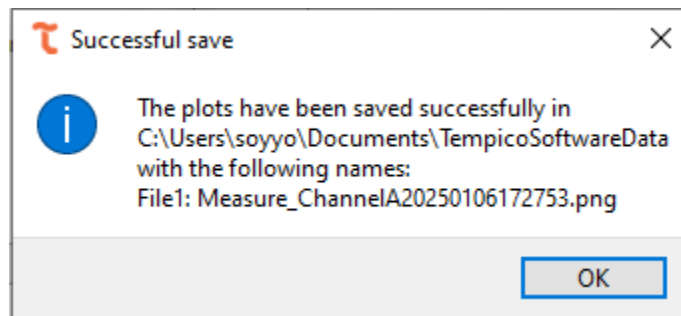
The saved image is the one displayed in the software at the moment of clicking "Accept." Therefore, the zoom applied to the graph will also be reflected when saving the image. If multiple channels are selected for measurement, the 4 images will be saved separately.
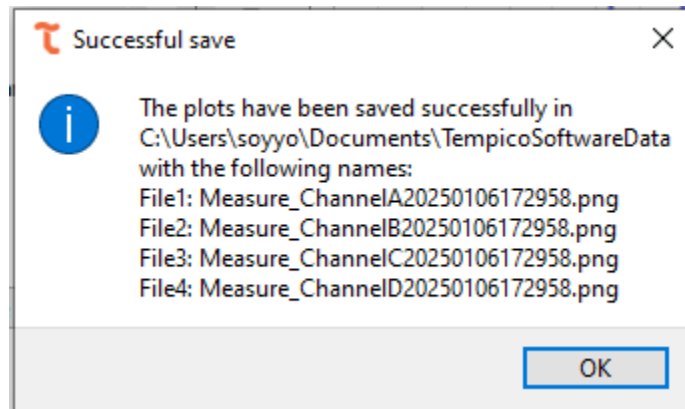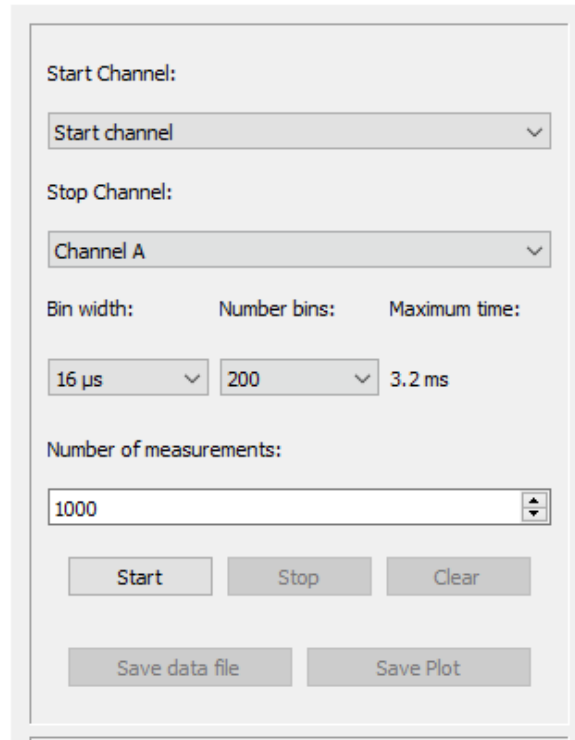

5.6 Lifetime histograms

To record lifetime measurements based on the time difference between input pulses and emitted excitation pulses, Tempico Software provides multiple tools to fulfill this functionality.

5.6.1 Settings before a measurement

Unlike the measurement of start and stop histograms, the preliminary setup for a lifetime measurement is a bit more elaborate. First, we must select the start channel and the stop channel for our measurements.

If a channel other than start is selected to initiate the measurement, a periodic electrical signal must be added to the start channel, as Tempico cannot measure signals on stop channels without a registered start event. This configuration risks losing data that arrives before the periodic signal is emitted. The pulse period must be short enough to reduce data loss. Tempico does not register stops occurring within less than 12 ns, making this setup useful for mitigating such effects.

After selecting the channel, the bin width must be chosen, representing the histogram's bar width. For example, with a bin width of 12 ns, if there are two measurements at 1 ns and 5 ns, both will contribute to the same histogram bar's frequency. The number of bins prevents histogram saturation and usually limits the time axis range. For instance, selecting a bin width of 480 ps and 50 bins results in a 24 ns range. Unlike start-stop histograms, lifetime measurements are designed with a limit, allowing the number of measurements to be specified. A measurement is counted when both start and stop channels record a value.

It's important to clarify that the configurations for the number of runs, number of stops, stop mask, and mode have no effect on this measurement. By default, the program sets the number of runs to 100, the number of stops to 1, the stop mask to 0, and the mode according to the maximum time parameter. If the maximum time exceeds 500 ns, the measurement operates in mode 2; otherwise, it operates in mode 1.

5.6.2 Perform a measurement

Once the desired configuration is selected, click the start button (Start) to begin the measurement. Like start-stop histograms, the program displays a status bar indicating the measurement's progress. If any channel is not recording, it will be shown. In this case, the percentage of the measurement is also displayed, as the number of desired measurements can be specified.
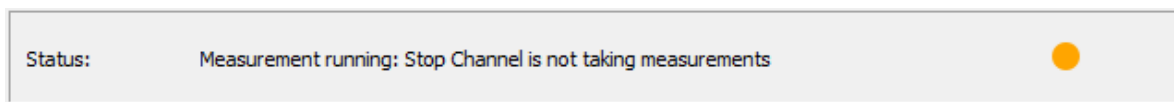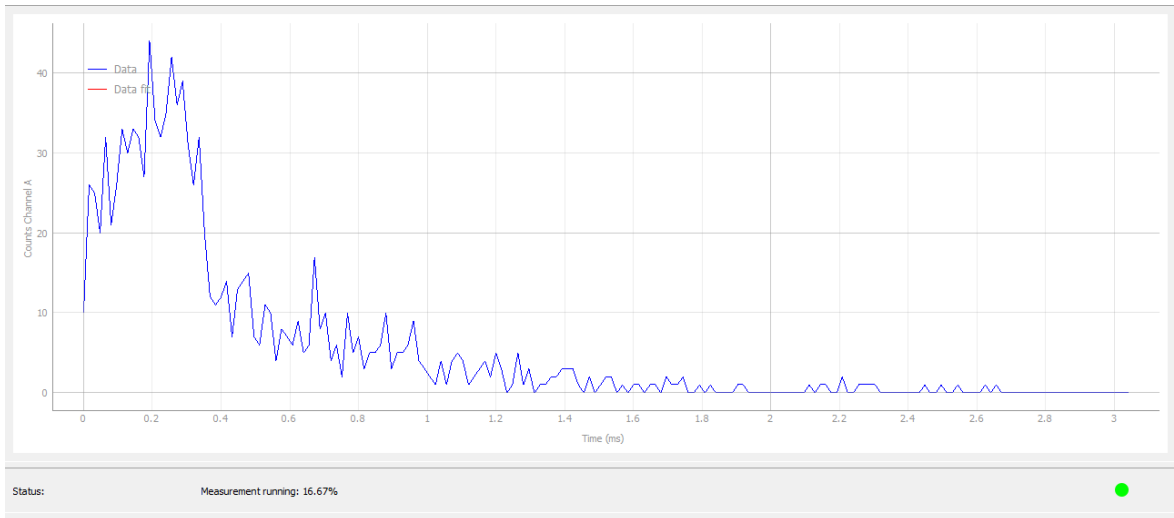
The program also provides additional information about the measurement status, including the total number of starts, the total number of complete measurements (i.e., start and stop), and the total elapsed time in HH:MM:SS format.

5.6.3 Fitting

Con el fin de obtener más información acerca de una medición, el usuario puede realizar un fit sobre la gráfica. Al realizar el fit obtiene en la tabla de la esquina superior derecha información más detallada acerca de los parametros de la ecuación a ajustar. Obtiene sus valores, su desviación estándar y sus respectivas unidades.
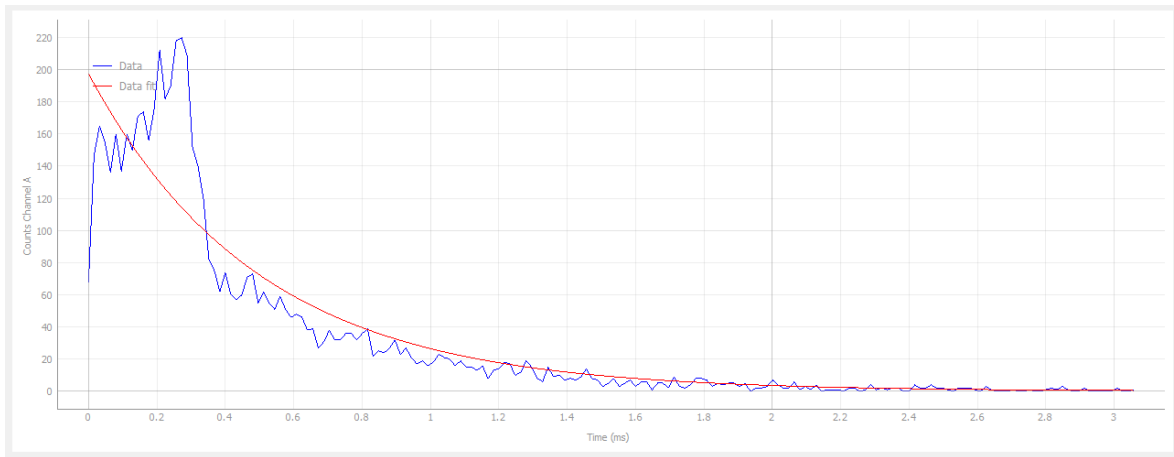
In some cases, reliable values may not be estimated, and the adjustment will indicate "nan" for those parameters. The quality of the fitness depends on the initial parameters set before the estimation. Therefore, users are free to modify these parameters. They can also revert to the default values provided by the software.

The software offers various types of adjustments:

5.6.3.1   Exponential

$$I_0 e^{\frac{-\tau}{\tau_0}}$$

For fluorescence decay processes and certain radioactive processes, it is common to encounter exponential distribution. This distribution involves two parameters: by default, the initial value of I_0 is set to the maximum found on the graph, and τ_0 corresponds to the average of the measured times.

5.6.3.2   Shifted Exponential

$$I_0 e^{\frac{-\tau+\alpha}{\tau_0}} + b$$

In some cases, an exponential distribution may exhibit a shift due to noise or inherent system characteristics. For these situations, an option for an exponential distribution with a shift is provided, allowing the user to correct the shift and obtain a pure exponential distribution. The initial parameters I_0 and τ_0 are the same as those used by default in the exponential distribution. However, the additional parameters α and b are set to 0 by default.

5.6.3.3   Kohlrausch

$$I_0 e^{\left(\frac{-\tau}{\tau_0}\right)^{\beta}}$$

In the case of fluorescence lifetime measurements, interactions may occur both in the environment and with the fluorescent material, which can be interpreted as noise in the final measurement. To obtain a profile that represents the dynamics of fluorescence, a Kohlrausch fit can be used. The default initial value for the β parameter is 1.

5.6.3.4   Double Exponential

$$I_0 \left(\alpha\, e^{\frac{-\tau}{\tau_0}} + (1-\alpha)e^{\frac{-\tau}{\tau_1}}\right)$$

In some cases, the data may have more than one component, and the user may wish to separate the parameters of each. For these cases, a double exponential fit can be used. The default values are the same as those used in the exponential distribution; the default value for α is 1, and the value for τ_1 is the same as τ_0.

5.6.4 Save data and plots

Like the histogram functionality, the user has the option to save both the data and the image. If the user clicks the **Save Data File** button (Save data file), a window will appear to select the desired format for saving the data. The user can choose between txt, csv, or dat formats.

T Save   ?   X

Select the text format:

txt
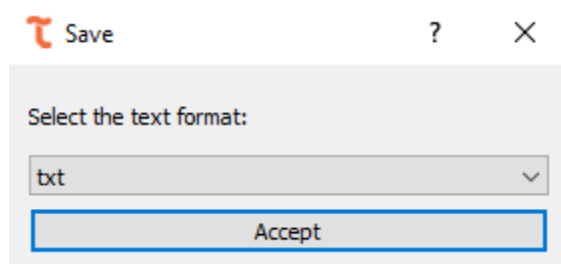
Accept

If the user clicks the **Accept** button (Accept), a window will appear confirming that the file has been successfully saved and displaying the path where it was stored.

T Successful save   ✕

> ⓘ   The files have been saved in path folder:
>   C:\Users\soyyo\Documents\TempicoSoftwareData
>   with the name:
>   FLIMMeasurement20250107192910.txt

OK
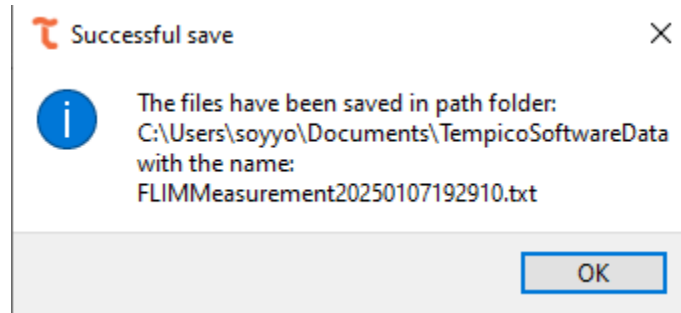
If the user clicks **Save Plot** (Save Plot), they can choose from three formats: PNG, TIFF, and JPG. Upon clicking the **Accept** button, a window will confirm that the file has been successfully saved and display the path where it was stored.

T Successful save   ✕

The plots have been saved successfully in
C:\Users\soyyo\Documents\TempicoSoftwareData
with the following names:
FLIMMeasurement20250108010258.png

OK
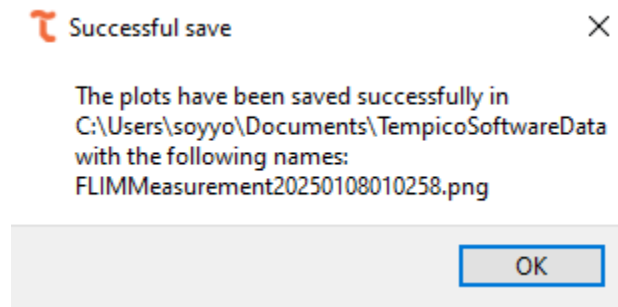
If an adjustment is applied, both the image and the text data will include the equation of the adjustment made, along with the calculated parameters.

```
Exponential Fit:        I_0*e^(-t/tau_0)
Tau_0:  17.852
I_0:     0.554
Start Channel:  Start channel
Stop Channel:   Channel A
Time (ms)        Counts FLIM
0.0      5
0.016    9
0.032    17
0.048    11
0.064    13
0.08     16
0.096    12
0.112    17
0.128    12
0.144    14
0.16     19
0.176    11
0.192    17
0.208    18
0.224    16
0.24     16
0.256    26
0.272    25
0.288    19
```

Fit: $I_0 * e^{(-t/\tau_0)}$, Parameters: $I_0 = 17.852$ τ_0:0.554 ms
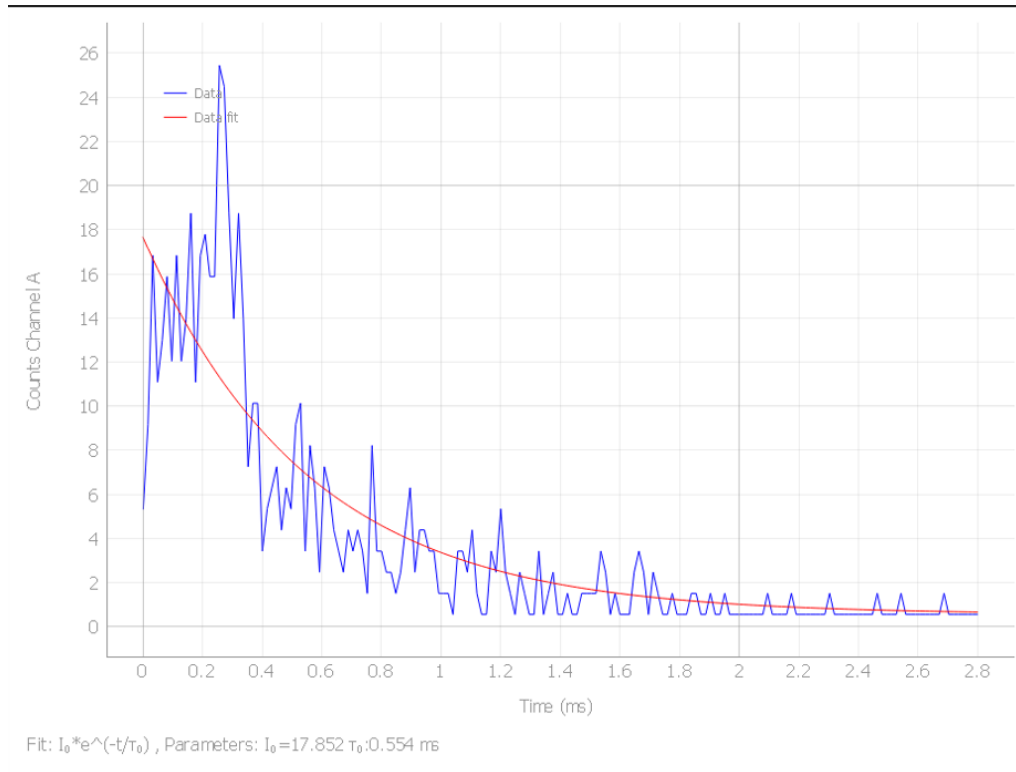
5.7 Estimated Counts

Tempico Software does not directly provide the exact count of pulses received on each channel, since the Tempico device accepts a maximum of five incoming pulses after a start pulse. However, the software offers a feature that enables reliable count estimation by analyzing the time intervals between pulses.

5.7.1 Settings for signal measurement

To estimate pulse counts in Tempico Software, it is essential that the measurement includes a periodic start pulse of very short duration, and that the source to be measured is connected to one of the available channels (A, B, C, or D). In this process, software settings such as average cycles, mode, number of stops, and stop mask have no effect, as the system automatically configures these parameters during the measurement. The software calculates the average time differences between the pulses detected on the active channel, then computes the inverse of this value to determine the pulse frequency per unit of time, and finally converts the result into seconds, obtaining an estimate of the number of pulses per second. A graph is shown below to illustrate a representative signal used for this type of estimation.
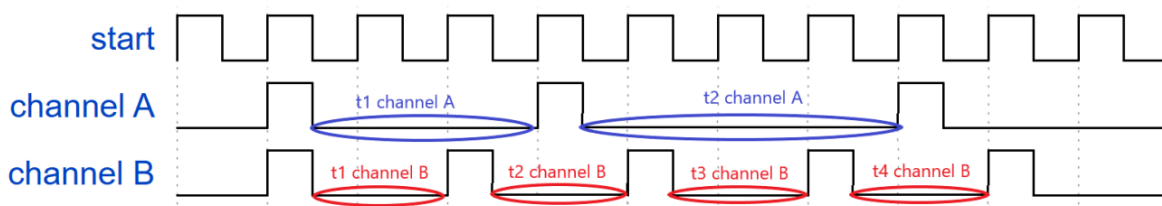
The signal clearly shows the periodic start pulse that must be emitted, along with two sets of pulse measurements recorded on Channel A (blue) and Channel B (red), respectively. For Channel A, the software identifies the times t1 Channel A and t2 Channel A. To obtain t1, it subtracts the timestamp of pulse 1 from pulse 2, and for t2, it subtracts pulse 2 from pulse 3. Then, the software calculates the average between these two values, obtains their inverse, and converts the result into seconds. For Channel B, the same procedure is followed: the average is calculated between t1 Channel B, t2 Channel B, t3 Channel B, and t4 Channel B, then the inverse is obtained, and the result is converted to seconds. This final value is reported as the measurement result.

The Tempico device has a 4-millisecond window to receive a stop pulse after a start pulse is received. Additionally, it is essential that at least two pulses are detected after the start pulse during the measurement process, as otherwise it will not be possible to calculate the time differences between pulses. Therefore, the input signal must have a minimum frequency of 500 pulses per second for the software to accurately estimate the counts.

5.7.2 Settings before measurement

For this functionality, users can configure the channels on which the count estimation will be performed, as well as choose from different types of graphical displays. The merge option overlays the curves of all channels on a single graph; separated creates an individual graph for each channel; and detached opens each graph in a separate, resizable dialog window. Additionally, the detached table option displays the temporal count history in an independent dialog. The time range parameter allows users to define the time intervals over which the measurement graph will be displayed.

It is important to note that not all settings become locked once the measurement begins. The only configuration that becomes restricted is channel selection, which prevents enabling channels that were not selected prior to starting the measurement. All other settings can be adjusted dynamically while the measurement is running. The following figure shows the configuration panel for these options.

Once the user starts the measurement, the system automatically determines the number of stops required to begin count estimation. This step is critical, as configuring the Tempico device with several stops greater than the actual number of pulses received after a start pulse would result in no valid measurements being detected. To prevent this issue, the software analyzes the incoming signal behavior and automatically adjusts the appropriate number of stops before starting the counting process.

Status: Estimating number stops in channel A 100%   Help

If the software detects that a channel is unable to register more than 2 stops, it will notify the user and prompt whether to stop the measurement or continue with the remaining active channels. This mechanism ensures user control over the process and helps prevent unreliable results from channels with insufficient signal.
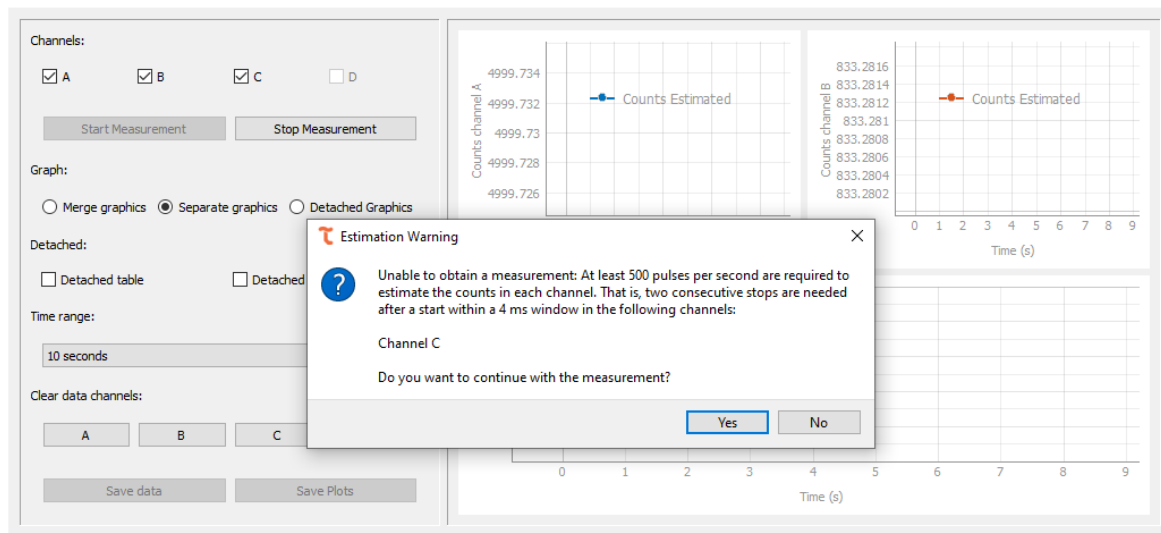
If the user chooses to continue the measurement, the channel for which no valid data was found will be automatically disabled and cannot be reselected unless the current measurement is stopped and a new one is started. This ensures that only channels with valid signals are considered during the estimation process.
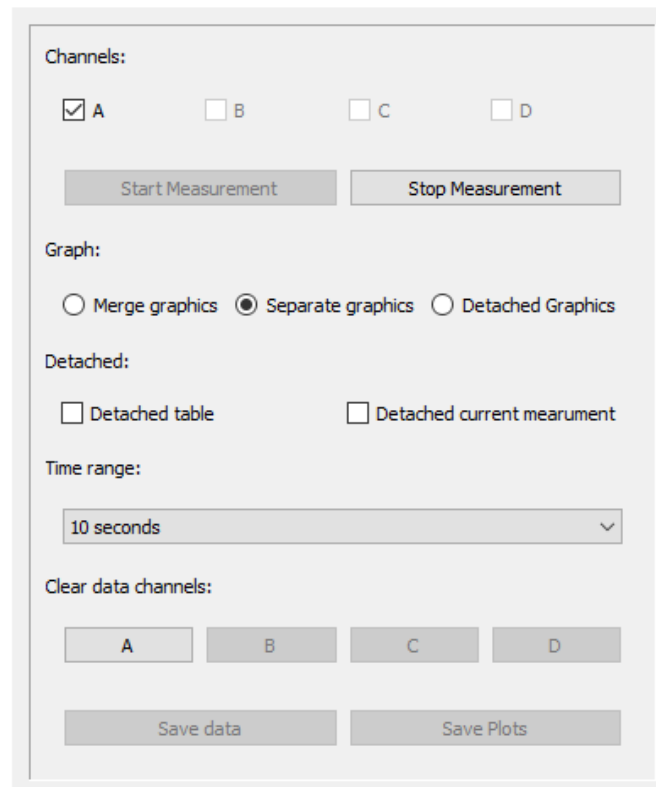
If the user chooses not to continue, the software will automatically terminate the measurement, ensuring that no channels without valid signals are processed.

5.7.3 Perform a measurement

To start the measurement, you must click the Start Measurement (Start Measurement) button, which will begin the stop number estimation process described earlier. Once this process is complete, the measurement will begin to run correctly.

First, we have the graphical section; if the Merge Graphics (○ Merge graphics) option is selected, all curves from the selected channels will be displayed in a single chart.
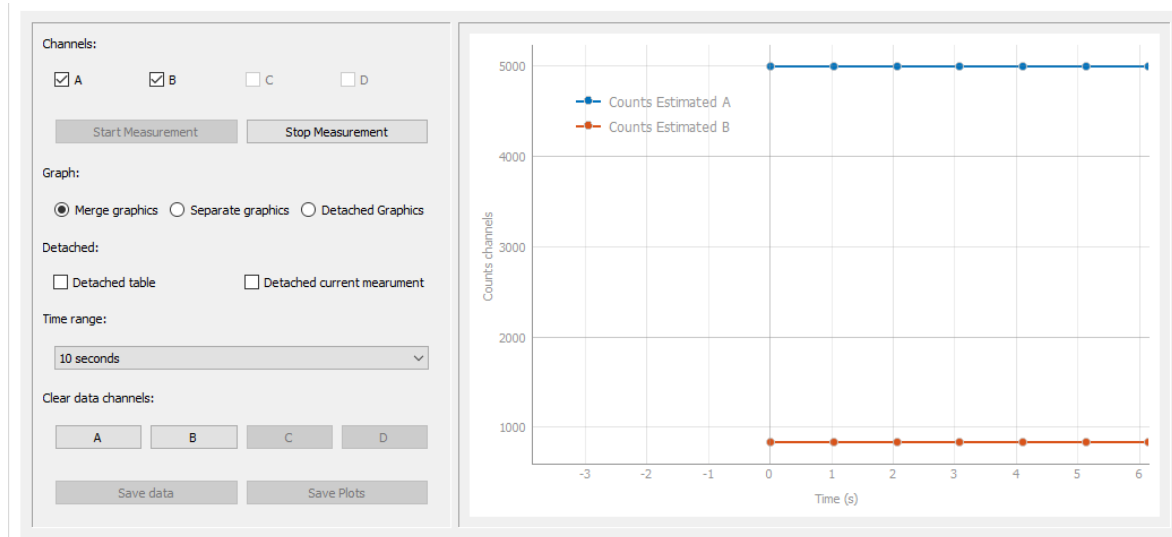

Whereas if the Separate Graphics (◉ Separate graphics) option is selected, the curves for each channel will be displayed individually, each in its own separate chart.
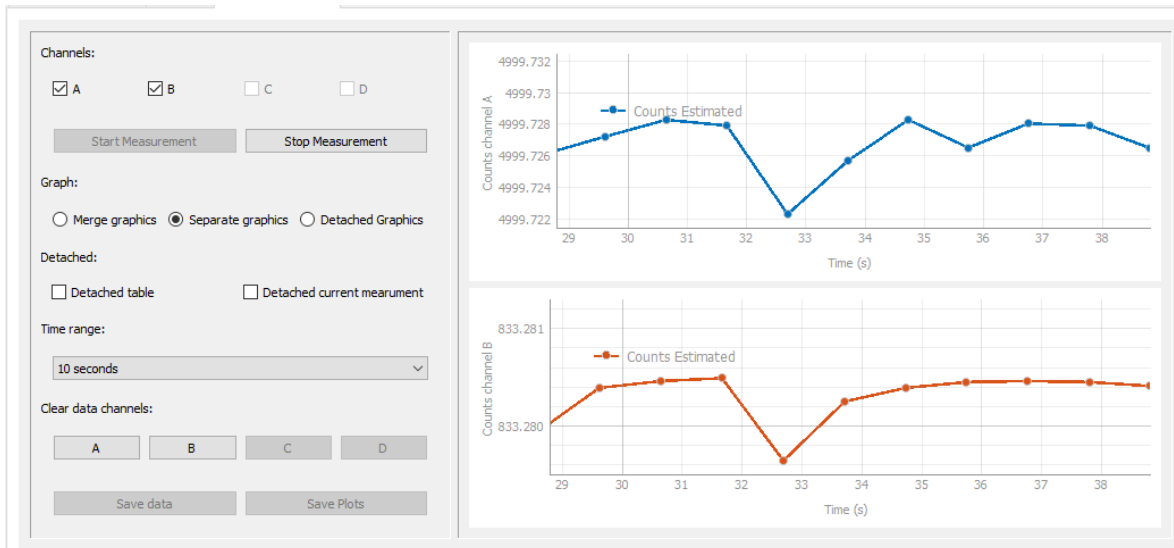
We also have the Detached Graphics (⦿ Detached Graphics) option, which displays the graphs in separate dialog windows that open independently from the main window.
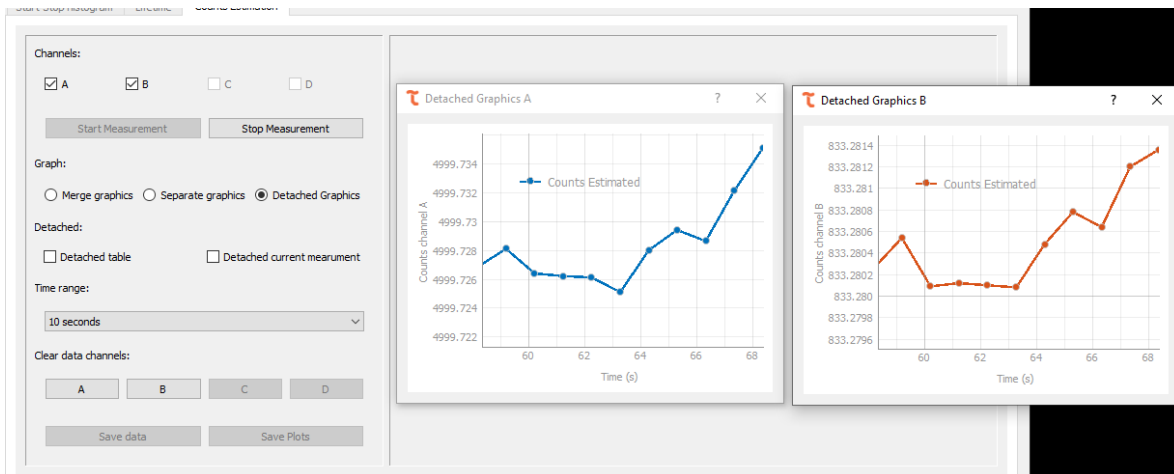
Time filters can be applied to the graphs using the Time Range dropdown menu. This allows you to adjust the time range on the X-axis to view the measurement history in detail. For example, if you select 50 seconds, all graphs will display the last 50 seconds of the recorded data.S
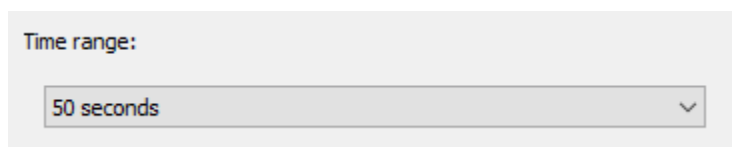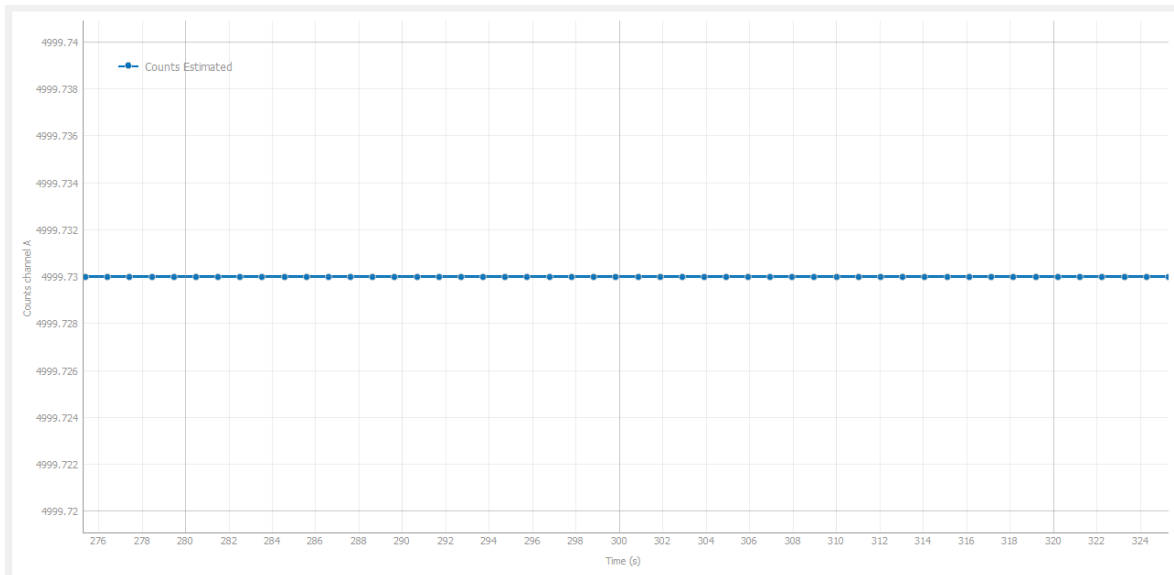
During the measurement, there is also a table section that displays the history of the estimated count values along with the corresponding hour, minSSutes, and seconds of registration. This section is located below the graphs displayed on the screen.

	Date	A
1	13:44:20	4999.72497
2	13:44:19	4999.73133
3	13:44:18	4999.73088
4	13:44:17	4999.72446
5	13:44:16	4999.73156

If the user wants to view the table more clearly, they can enable the *detached table* option available in the settings panel. This will display the table in a separate dialog window, showing the same data as the one at the bottom of the main window, but with enhanced detail.

Detached:

☑ Detached table   ☐ Detached current mearument

	Date	A	B
1	13:44:50	4999.73051	833.28049
2	13:44:49	4999.73113	833.28096
3	13:44:48	4999.72947	833.28075
4	13:44:47	4999.73051	833.28089
5	13:44:46	4999.72643	833.28019
6	13:44:45	4999.72626	833.28006
7	13:44:44	4999.73172	833.28091
8	13:44:43	4999.72970	833.28070
9	13:44:42	4999.72970	833.28091
10	13:44:41	4999.72980	833.28081
11	13:44:40	4999.73028	833.28082
12	13:44:39	4999.73049	833.28081
13	13:44:38	4999.73055	833.28093
14	13:44:37	4999.72930	833.28093
15	13:44:36	4999.73093	833.28091
16	13:44:35	4999.73090	833.28086
17	13:44:34	4999.72970	833.28086
18	13:44:33	4999.73099	833.28091

Likewise, in the bottom-left corner of the main window, the user can view the value and the uncertainty corresponding to the most recently reported measurement.

Est. counts (cps)	Uncertainty
A: 4999.72977	0.10785
B: 833.28082	0.00289

As before, the user can choose to view the current values in detached mode by clicking the corresponding checkbox.

Detached:

☐ Detached table   ☑ Detached current mearument

After that, a separate dialog will open displaying the current measurement values.

Est. counts (cps)	Uncertainty
A: 4999.73166	0.11098
B: 833.28095	0.00280
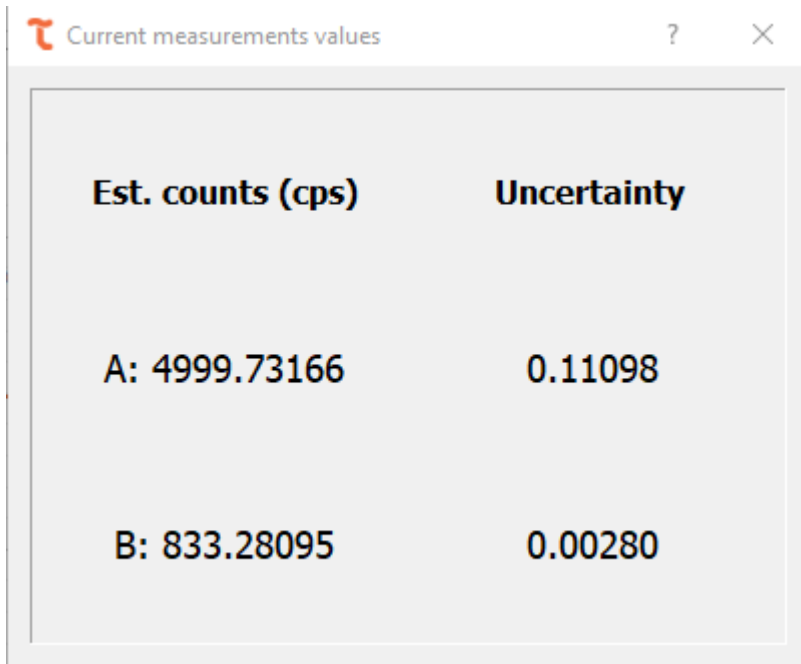
If a channel stops emitting values during the measurement process, the software will notify the user through the status bar. Additionally, the results table will display the message Low Counts, indicating that the device is unable to perform the measurement because the number of received counts is insufficient.

	Date	A	B
1	13:45:31	Low Counts	Low Counts
2	13:45:29	Low Counts	Low Counts
3	13:45:27	4999.72875	833.28062
4	13:45:26	4999.72467	833.27991
5	13:45:25	4999.72754	833.28035
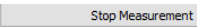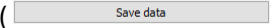
Status: The channnels A, B are not taking measurements   ●   Help

| Est. counts (cps)	Uncertainty
A: Low Counts	Low Counts
B: Low Counts	Low Counts

Once measurements are registered again on the channel, the process will resume normally.
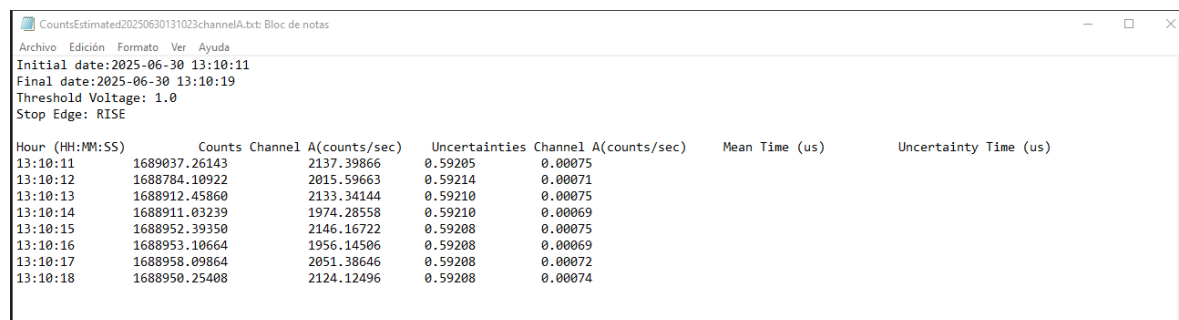
5.7.4 Save data

The user is responsible for deciding when to stop the measurement. To do this, they must click the Stop Measurement (Stop Measurement) button. After this, the Save Data (Save data) button will be enabled, allowing the user to save the data in plain text format. Upon clicking this button, a window like those used in other functionalities will appear, prompting the user to choose the format in which they wish to save the measurement.
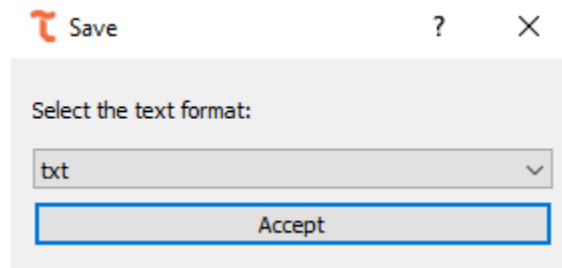
Among the available formats for saving the data are .txt, .csv, and .dat. Upon clicking Accept, a window will appear confirming that the values have been successfully saved and displaying the path where the files are located.SS
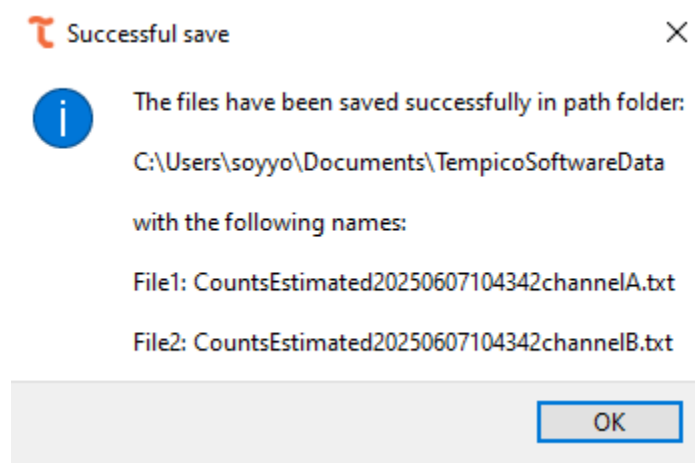
The file will store both the timestamp of the recorded data and the corresponding estimated count value.

5.7.5 Save plot

Similarly, once the measurement is completed, the option to save the plots ([Save Plots]) will be enabled. As in the previous sections, a window will appear allowing the user to select the format in which they wish to save the graph, including PNG, TIFF, and JPG.
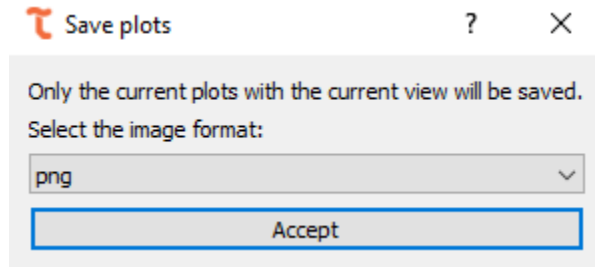
After clicking the accept button, a dialog window will open indicating the path where the image was saved, including the file name and selected format.
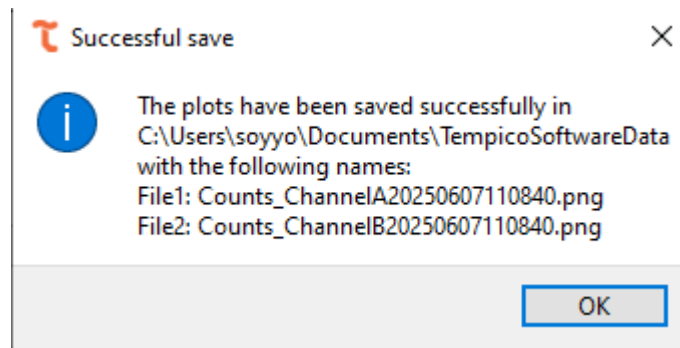
The graph will be saved exactly as it appears on screen. If the time range filter has been applied, the image will reflect the corresponding values on the X-axis. Additionally, if the graph has been visually adjusted—either stretched or displayed with specific width-to-height proportions—those proportions will be preserved when the graph is saved.

6 Technical documentation

Tempico Software is open source, allowing access to the software's source code and developer documentation through the GitHub platform. It also provides a guide to the code and the creation of respective installers for each operating system.

https://github.com/Tausand-dev/TempicoSoftware

7 Drivers

Your computer may automatically download and install from the Internet the required drivers once you connect your Tausand Tempico device to a USB port. If you require to install them manually, they are available at https://www.tausand.com/downloads.

8 Technical support

For technical support, contact us at support@tausand.com.

Visit our website to check for the latest documentation and software releases.

www.tausand.com