

Installation Manual

Estudios MA– Electronic and Biomedical Engineering

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INSTALLATION MANUAL MA -SERIALHELP

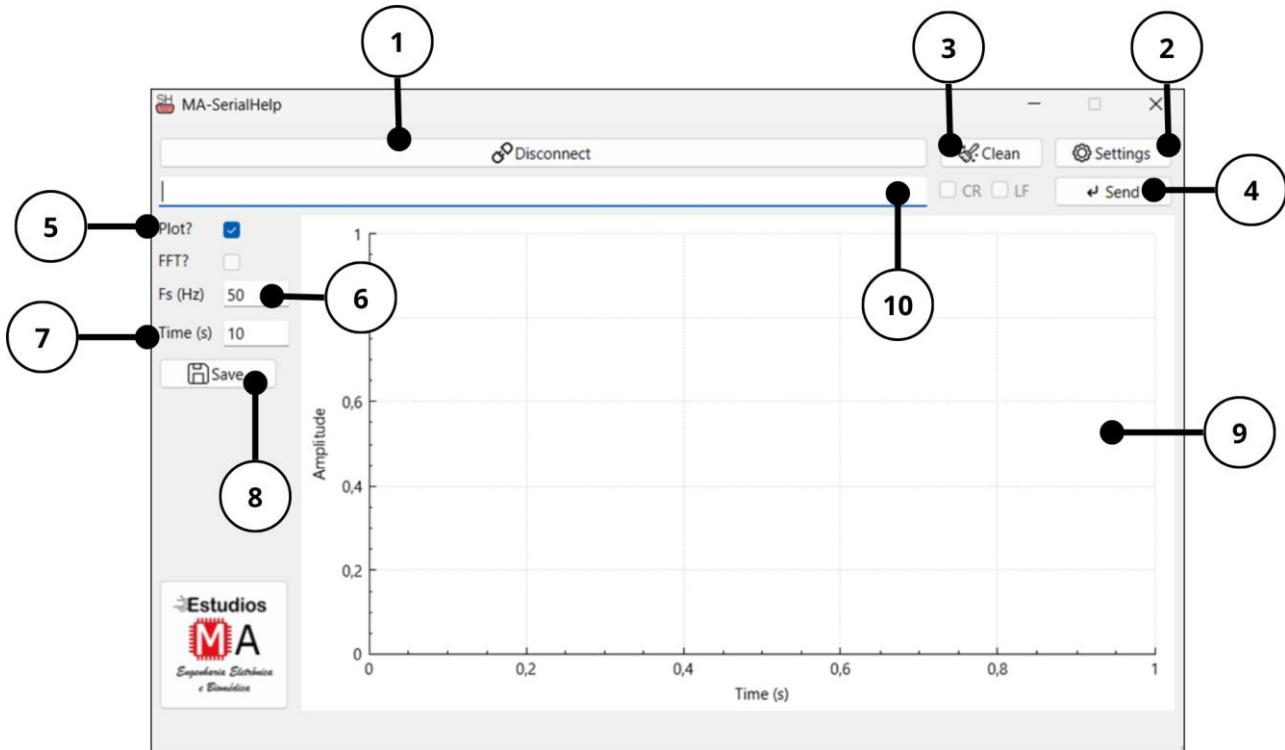
V0.X

WARNING

Please read the entire manual before using this software.

Overview

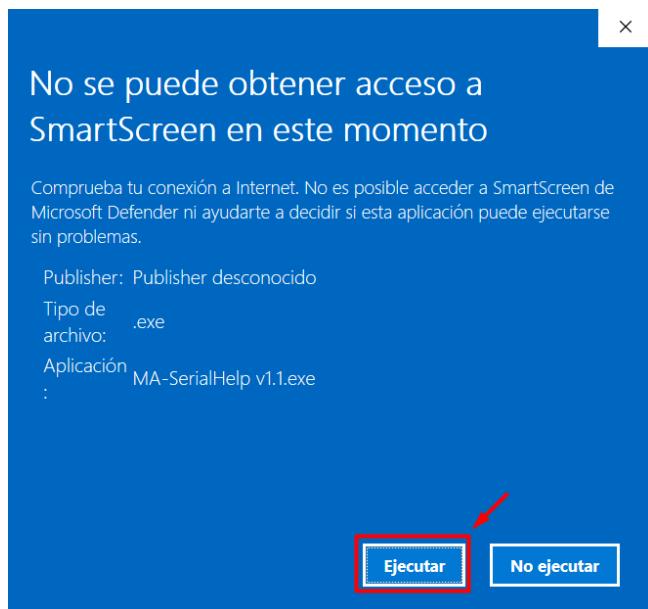
The MA-SerialHelp software has the following parts:



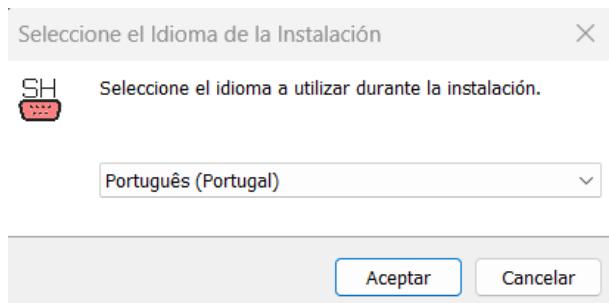
1. Connect or disconnect the COM port.
2. Settings
3. Clean Graphics.
4. Send commands entered in item 10.
5. Activate/deactivate graphics of data received via serial.
6. Sampling frequency for graphing.
7. Window time.
8. Save the signal to a file.
9. Signal/data display.
10. Text input.

Installation process

- Run the MA-SerialHelp vX.X software .exe file. A window will appear to allow execution; click Run.

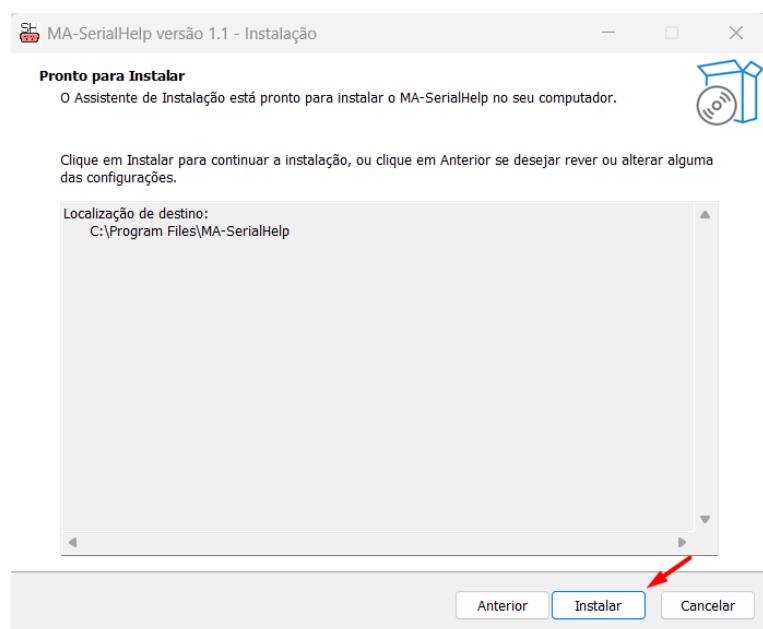


- Select language → click OK → Next.



- Activate the option to create a shortcut on the desktop → click Next.

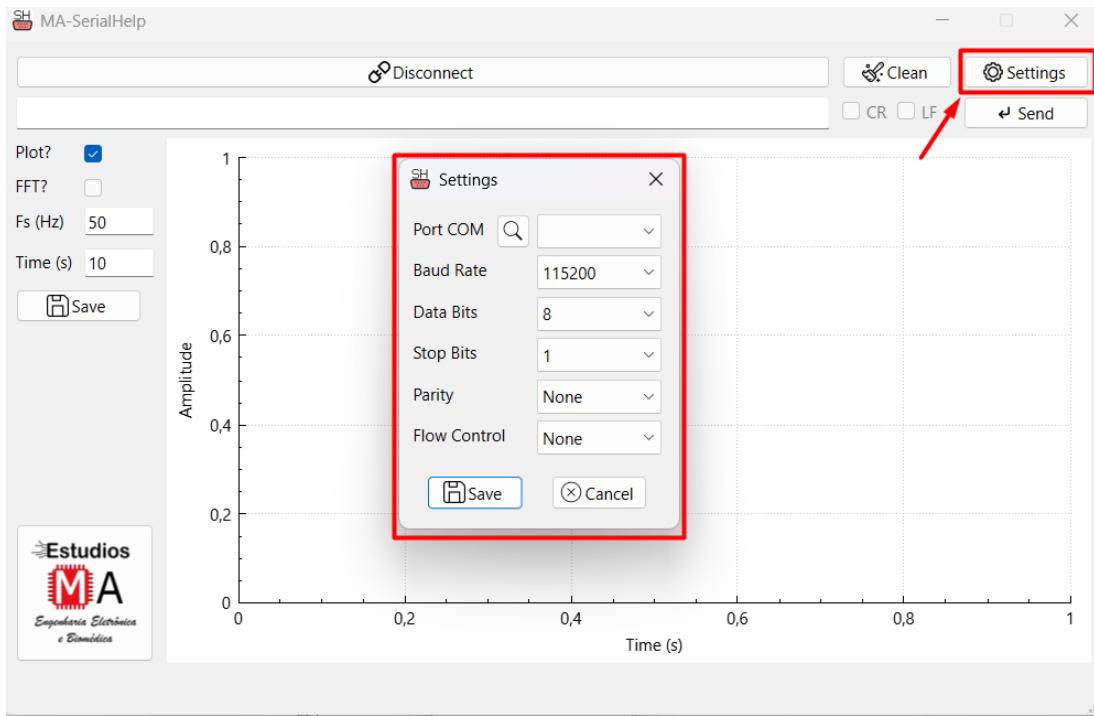
- Finally, Install and Finish.



Tools

MA-SerialHelp v0.1 has tools like:

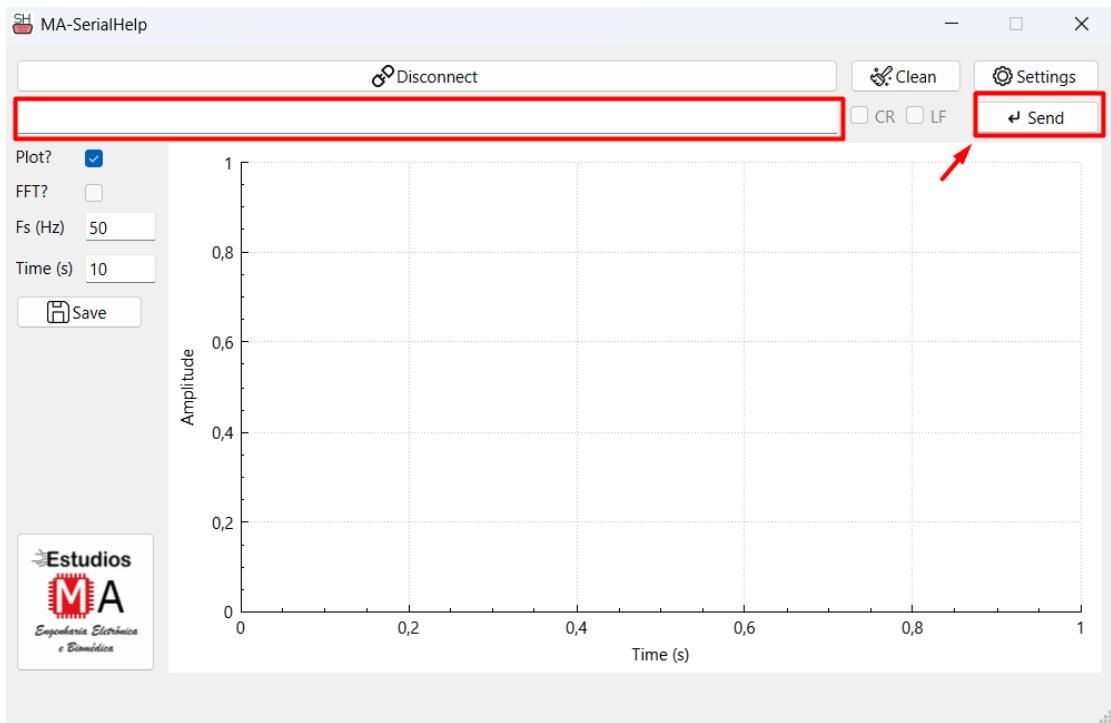
1. A settings submenu that allows you to select/check the COM port, baud rate (9600 and 115200), data bits (5,6,7 and 8), stop bits (1, 1.5 and 2), parity (none, even, odd, mark and space) and flow control (none, RTS/CTS and XON/OFF).



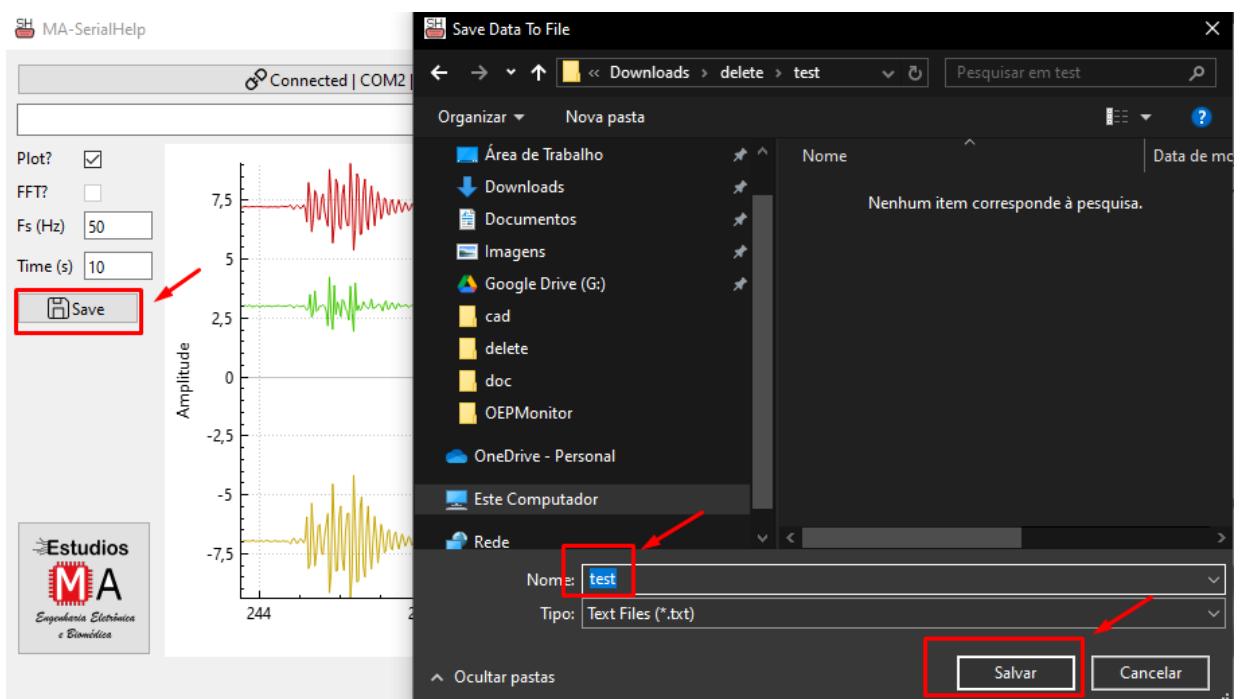
2. Clean the graph (**Clean** button).
3. Set the sampling rate to be used to graph the time axis.

Important: This **Fs (Hz)** does not change the device's sampling rate; it only tells the monitor how to distribute the data on the time axis, assuming it arrives periodically.

4. Send text input commands with the **Send** button.



5. Allows you to save the generated signal (**Save** button) in a text file (.txt).



Open signals in Matlab/Octave

Here is an example to open and analyze the signal in Matlab/Octave:

```
close all;
clear;
clc;
addpath('ma_functions'); % first download 'ma_functions'
here: https://github.com/estudiosma/matlab
%%
file_name = 'test.txt';
data = readmatrix(file_name);
fs = 50; % Hz
t = (0:length(data)-1)/fs;
%%
% fprintf("Time: %0.2f horas\n", length(data)/(fs*60*60));
fprintf("Time: %0.2f seg\n", length(data)/(fs));
data_d = ma_detrend(data, 1);
ma_fft_plot(data_d, fs);
figure;
plot(t,data_d);
xlabel("Time (s)")
legend("AccX", "AccY", "AccZ")
```

