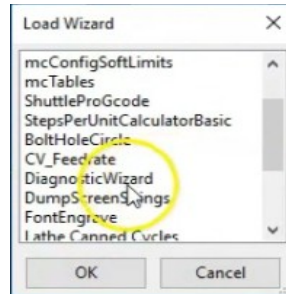


# Mach 4 Diagnostics Wizard

To open the Mach 4 diagnostics wizard, you will need to go to the top of your Mach 4 screen and click on Wizards.

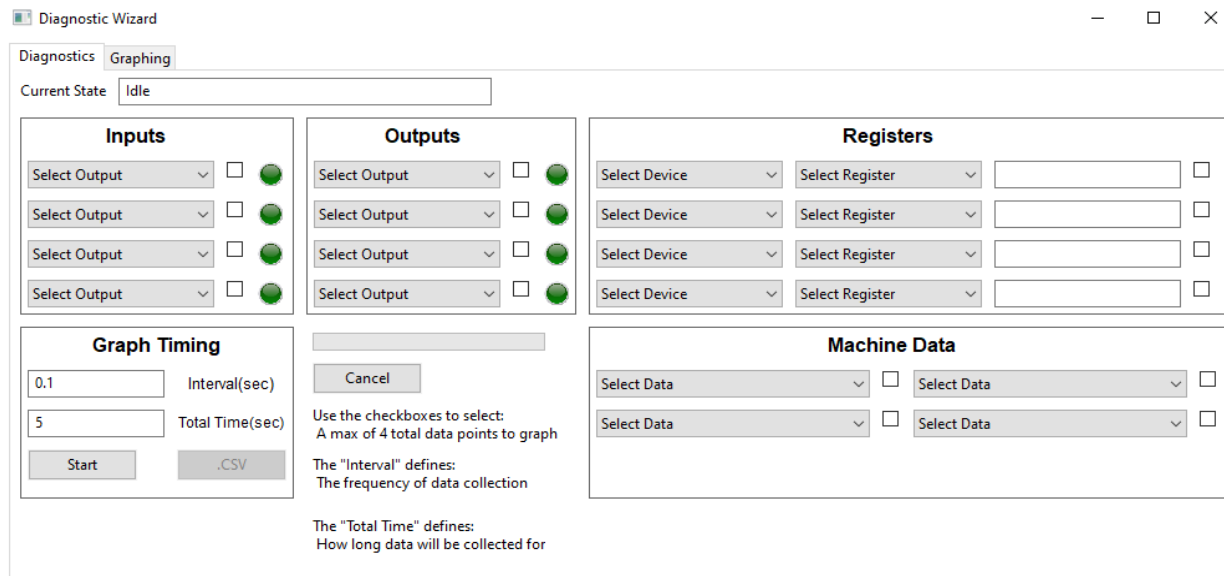
In the drop-down list you will see it labeled as “DiagnosticWizard”

Clicking on that will pop up the Diagnostic Wizard.



The Diagnostics Wizard has been divided up into drop down lists so you can pick what signals you would like to test.

## Diagnostics:



Diagnostic Wizard

Diagnosics **Graphing**

Current State Idle

Inputs		Outputs		Registers		
Select Output	<input type="checkbox"/>	Select Output	<input type="checkbox"/>	Select Device	Select Register	<input type="checkbox"/>
Select Output	<input type="checkbox"/>	Select Output	<input type="checkbox"/>	Select Device	Select Register	<input type="checkbox"/>
Select Output	<input type="checkbox"/>	Select Output	<input type="checkbox"/>	Select Device	Select Register	<input type="checkbox"/>
Select Output	<input type="checkbox"/>	Select Output	<input type="checkbox"/>	Select Device	Select Register	<input type="checkbox"/>

**Graph Timing**

0.1 Interval(sec)

5 Total Time(sec)

Start .CSV

Use the checkboxes to select:  
A max of 4 total data points to graph

The "Interval" defines:  
The frequency of data collection

The "Total Time" defines:  
How long data will be collected for

**Machine Data**

Select Data	<input type="checkbox"/>	Select Data	<input type="checkbox"/>
Select Data	<input type="checkbox"/>	Select Data	<input type="checkbox"/>

You can select your inputs, outputs, registers, and machine data. You can select these registers based off your motion controller device. Each selection has a check box near it, when attempting to graph selections make sure each selections check box is checked. The maximum allowed selections to graph at one time is four.

Inputs: Any inputs that are connected to you motion controller can be tested for accuracy.

Outputs: Any output signals that need to be tested before attaching that signal to external equipment.

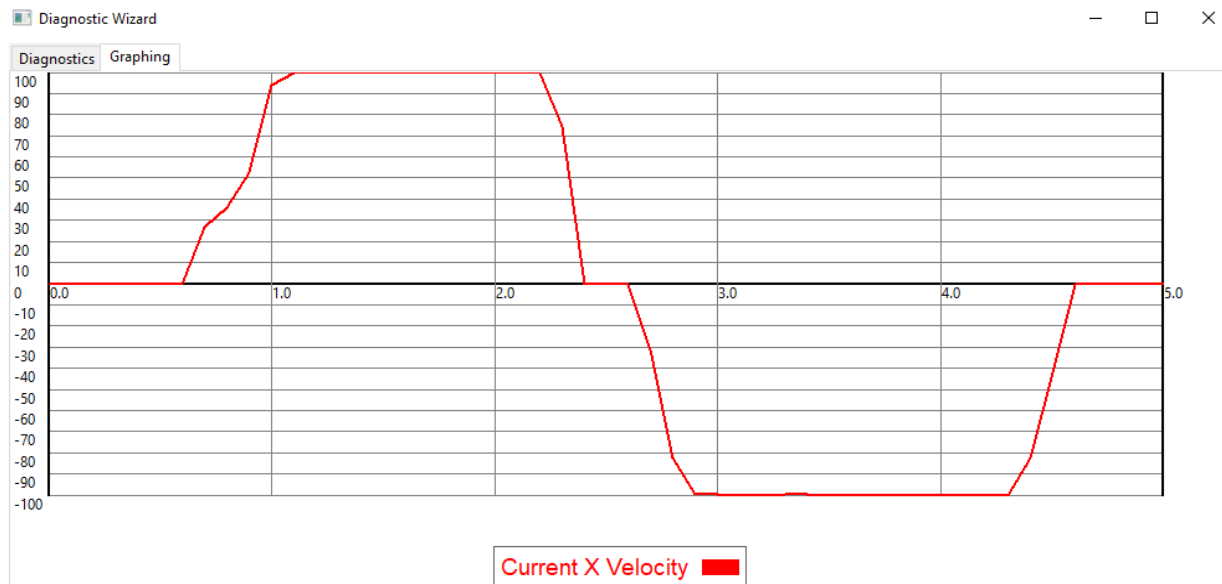
# Mach 4 Diagnostics Wizard

**Registers:** You can select your motion controller as the device and keep track of what functions are being used and how many times its being used.

**Machine Data:** Internal Mach 4 operating data that are accessed using the screen functions, they are now easily visible to everyone, using the Diagnostic wizard.

**Graph Timing:** The controls to edit how the data for the graph is recorded. The Interval input defines the time between each point of data getting logged. The Total Time is the length of time that the data will be logged. With those settings input, press start and the logging will begin. The progress will be displayed in the bar to the right of Graph Timing. To prematurely stop logging the data press cancel and the graph will be made with just the data up to that point. To save the data and view it in another software, click the .CSV button and a .csv file with a time based name will be created in the Tables directory of Mach 4. This file can be imported into any software that accepts .csv files eg. Google Sheets or Excel.

## Graphing:



**Legend:** The X axis will always be time and the Y axis will be the user selected data to log. The colors of the lines can be changed by clicking the colored box next to the line name. In the figure above, the Y axis only has one data plot which is Current X Velocity. The graph supports a maximum of four data lines plotted at the same time. They will all be on the same scale, with the exception of Inputs and Outputs which are either on or off. To make them easier to read at higher values Inputs and Outputs will scale to be zero when off and the first positive line when on. For example, in the graph above an off Input would have been at zero and on would have been at the ten line.