References:

The motors and corresponding software are provided by the company Iris Dynamics.

Collection of user manual of orca-6 motors:

https://irisdynamics.com/downloads

User manual for Quick Setup and Iris Controls Software (can be found in the first link):

https://irisdynamics.com/hubfs/Website/Downloads/Orca/Approved/UG220206_Orca_Series_Quickstart_Guide.pdf

User manual for Windows C++ SDK (can be found in the first link):

https://irisdynamics.com/hubfs/Website/Downloads/Orca/Approved/UG211201_IrisSDK_Orca_API.pd

C++ repository provided by Iris Dynamics to control the motor:

https://github.com/IrisDynamics/IrisSDK_for_Windows

Code created by the ME 470 Floating Wind Turbine Team to control the platform:

https://github.com/weixuanzh/ME470_FWT_Motor

Platform Control Code Setup

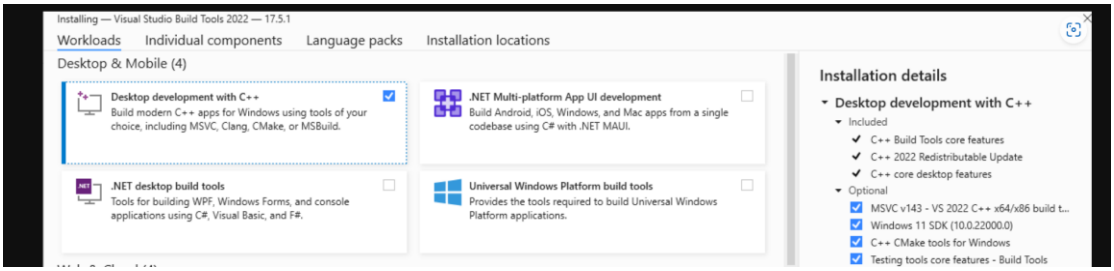
Make sure you have a windows operating system.

Check if Microsoft Visual C compiler (MSVC) is installed:

1. Search “Developer Command Prompt” in windows search bar
2. If not found, MSVC is not installed. If found, typing “cl” in command prompt.
3. If “cl” is not found, MSVC is not installed.

Installing MSVC:

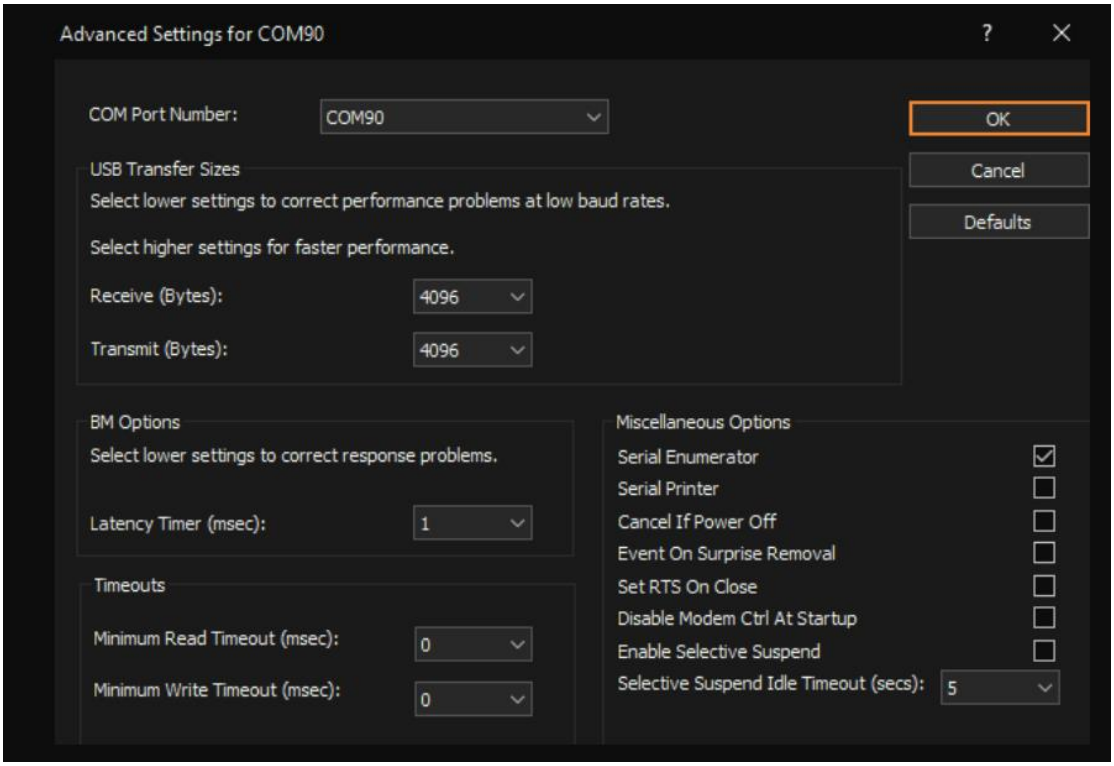
1. Go to the link here: https://visualstudio.microsoft.com/downloads/
2. Download the community edition. A file “VisualStudioSetup” should appear
3. Run the downloaded file. On the installer window, select “Desktop development with C++”. Click “install”.



4. Wait for the installation to complete. After completion, search “Developer Command Prompt” in windows search bar and open it.
5. Copy the path to the folder where “testForce.cpp” and “testMotion.cpp” are located. Inside the Command Prompt, type “cd /d [path]”, where [path] is the path copied just before.
6. Type either “cl testForce.cpp” or “cl testMotion.cpp”, depending on which file is needed to run (typically testForce.cpp). When compilation is successful, “testForce.exe” or “testMotion.exe” should appear.
7. Set up the comports (see instructions below) and run the exe file.

Setting up comports:

1. Plug the motor USB cables (yellow ones) to the PC.
2. Open device manager, find devices named “COMX”, where X can be any number. Open setting.
3. Open “Advanced Setting”. A window shown below should appear. Set “Latency Timer (msec)” to 1.



4. Do the same setting for all three motors.