**INSTALLATION**

**GUI APPLICATION**:

Here you can find it, download the Windows version  
<https://www.naturalmachinemotioninitiative.com/nmmi-gui>

**COMMAND LINE SOFTWARES**:

At the following link, you can find all the stuff (command line tools) useful to handle and communicate with the SoftHand

<https://github.com/NMMI/qbadmin> and <https://github.com/NMMI/qbAPI> .

Command line softwares - Installation instructions: <https://github.com/NMMI/qbadmin>

* For each link provided, open the link then press on the button "Code" (green button), then "Download zip". Unzip them in a chosen folder at the same level and rename the folders removing the last part of the names, so they will have names "qbAPI" and "qbadmin".
* [Download MinGW](https://sourceforge.net/projects/mingw/)and install it.
  + Open MinGW Installation Manager
  + From the left panel select basic setup
  + From the right panel select mingw32-base and mingw32-gcc-g++,
  + Click on Installation -> Apply Changes.

This will install the gcc/g++ compiler. To use it from the command line you need to provide to windows the binary path to the executable.

* Go to System Properties
* click on Environment Variables
* In the System Variable windows, look for path, select it and click edit.
* Go to the end of the Variable Value field
* add a ; separator and add the path to the binary folder for gcc (usually it is in C:\MinGW\bin).
* Download the make utility from [here](https://sourceforge.net/projects/getgnuwin32/files/latest/download). Follow the installation instruction. In the end you will need to add the binary path to the Environment Variables. To do that follow the previous steps. (Usually the binary folder for the make utility is in C:\Program Files (x86)\GnuWin32\bin).
* To configure the SoftHand you need to compile and run the command line tools provided in the attachment. To do that, go to qbAPI/src and type make. Then, to compile the tools, go to qbadmin/src folder and type make.

If everything is ok, you should see a folder tree like this:

- qbadminc

- bin\_win

- conf\_files

- objs\_win

- src

* Once compiled, the qbadmin/bin folder should contain multiple executable files, the most important of which are *qbadmin* and *nmmi\_param*.

**POWER UP CONNECTION**

Power Supply Voltage: 12V

Current: limited to 5A

Power supply positive lead: DOT on the pcb

Power Supply negative lead: PWR on the pcb

Motor 1 Limit: -18000

Motor 2 Limit: 25000

***To check the motor status:***

***Open the command line, navigate to qbadmin, and into bin\_win folder, then***

***Type: qbadmin -p***

***To observe the status of the motors***