Using Kinco HMIs
with
MAC motor® & ServoStep® & SMC66..85

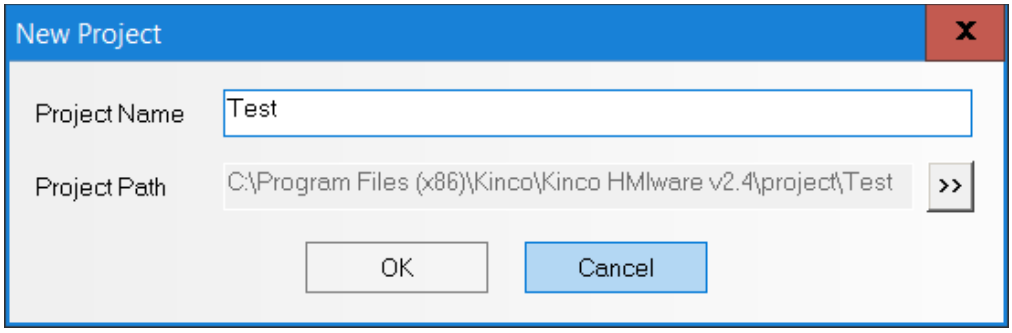
After installing the HMIware software and the correct USB-driver, you are ready for creating and downloading projects to your Kinco HMI panels.

In this short Quick Start Manual the following points are covered:

1. **Creating a new project**
   - One HMI and One ServoStep® or MAC motor®
   - One HMI and Multiple ServoStep®s or MAC motor®s
   - Multiple HMIs and Multiple ServoStep®s or MAC motor®s
2. **Designing HMI screens – Register Types**
   - Mix of 16 bit and 32 bit (MAC 50..141 + SMC75/1st Gen. MIS23x)
   - Only 32 bit (MAC 400..3000 + SMC66/MIS17x/MIS23x(2nd Gen) + SMC85/MIS34x..)
3. **Placing different Controls on the Screens**
   - Text
   - Number Inputs
   - Number Display
   - Function Keys
4. **Save the Project and Download it to the HMI**
   - Save the Project
   - Compile the Project
   - Simulation and Download to the HMI

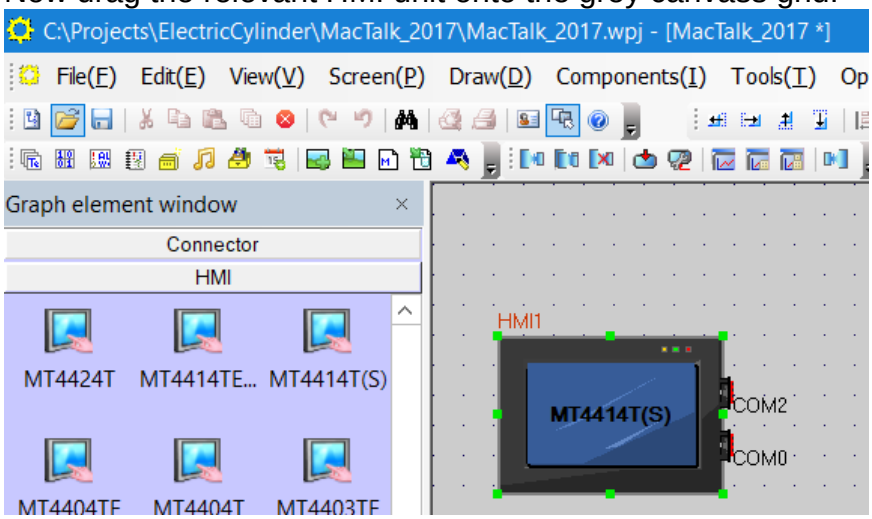
1. Creating a new project

File – New:

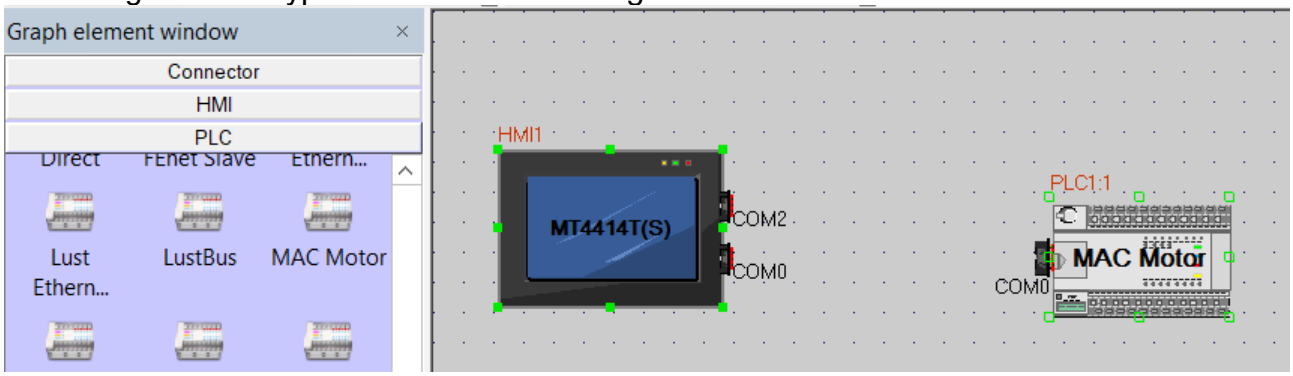


Choose a Project Name and click <OK>.

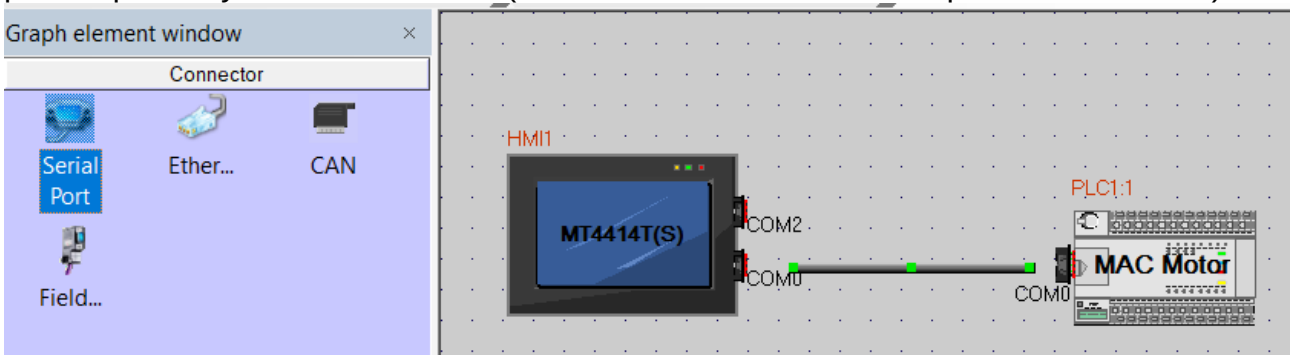
Now drag the relevant HMI unit onto the grey canvass grid:



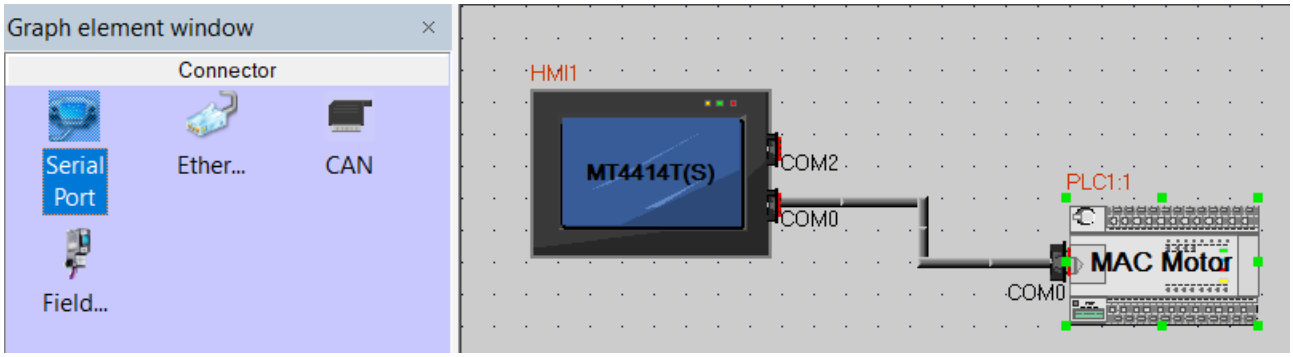
Next drag the PLC type “MAC Motor” to the grid:



Drag the Connector type “Serial Port” to the grid and connect the ends to the HMI Com0 port respectively to the MAC Motor (covers MAC motor®, ServoStep® and SMC66..85):

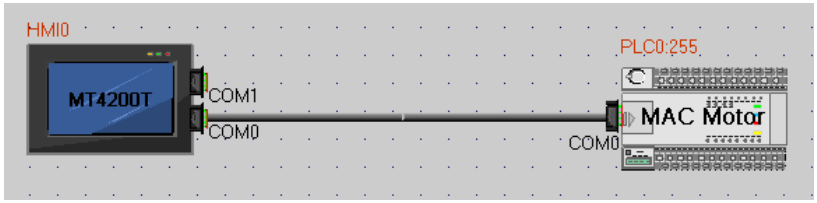


Now make sure that the Serial Port connector is connected in BOTH ends:

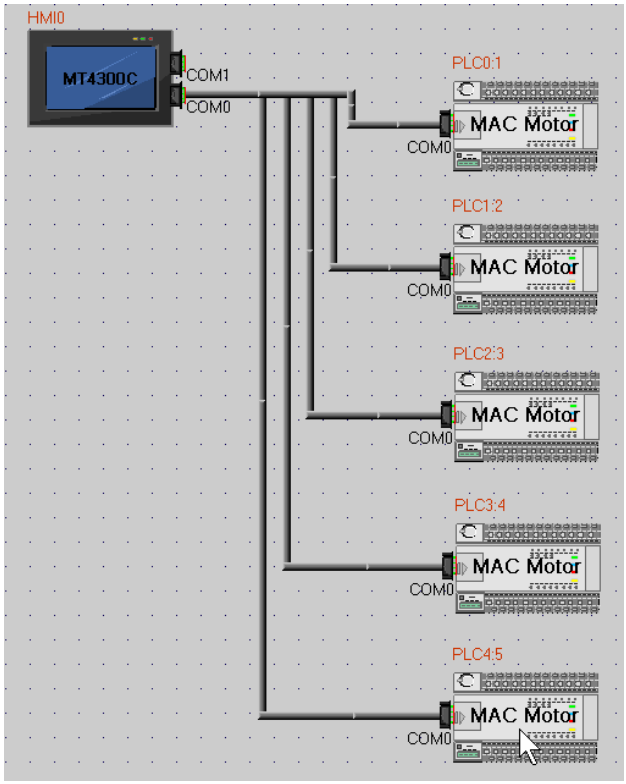


Tip: if you move HMI up-and-down and PLC up-and-down, then the connector MUST follow (as shown) otherwise it is not connected in both ends.

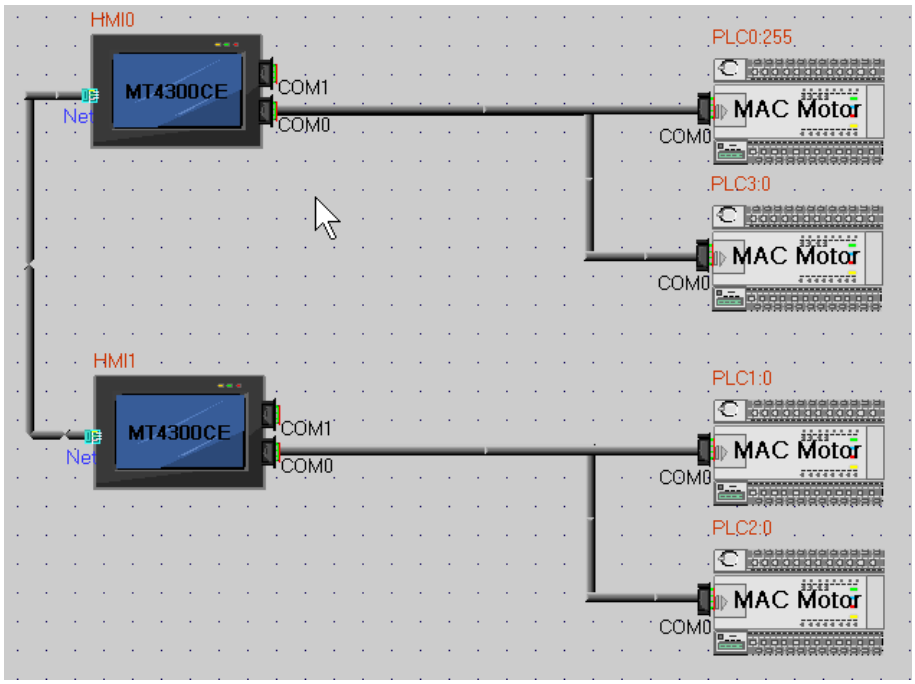
1 pcs HMI + 1 pcs ServoStep® / MAC motor®



1 pcs HMI + Multiple ServoStep®s or MAC motor®s

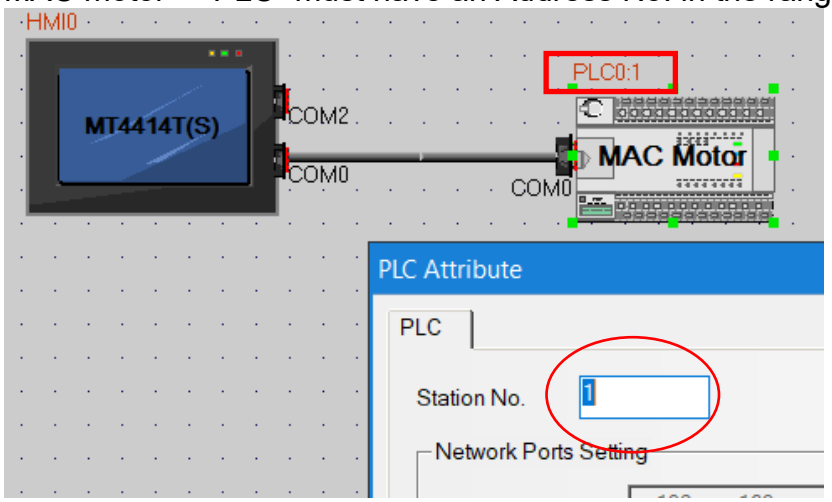


Multiple HMIs and Multiple ServoStep®s or MAC motor®s

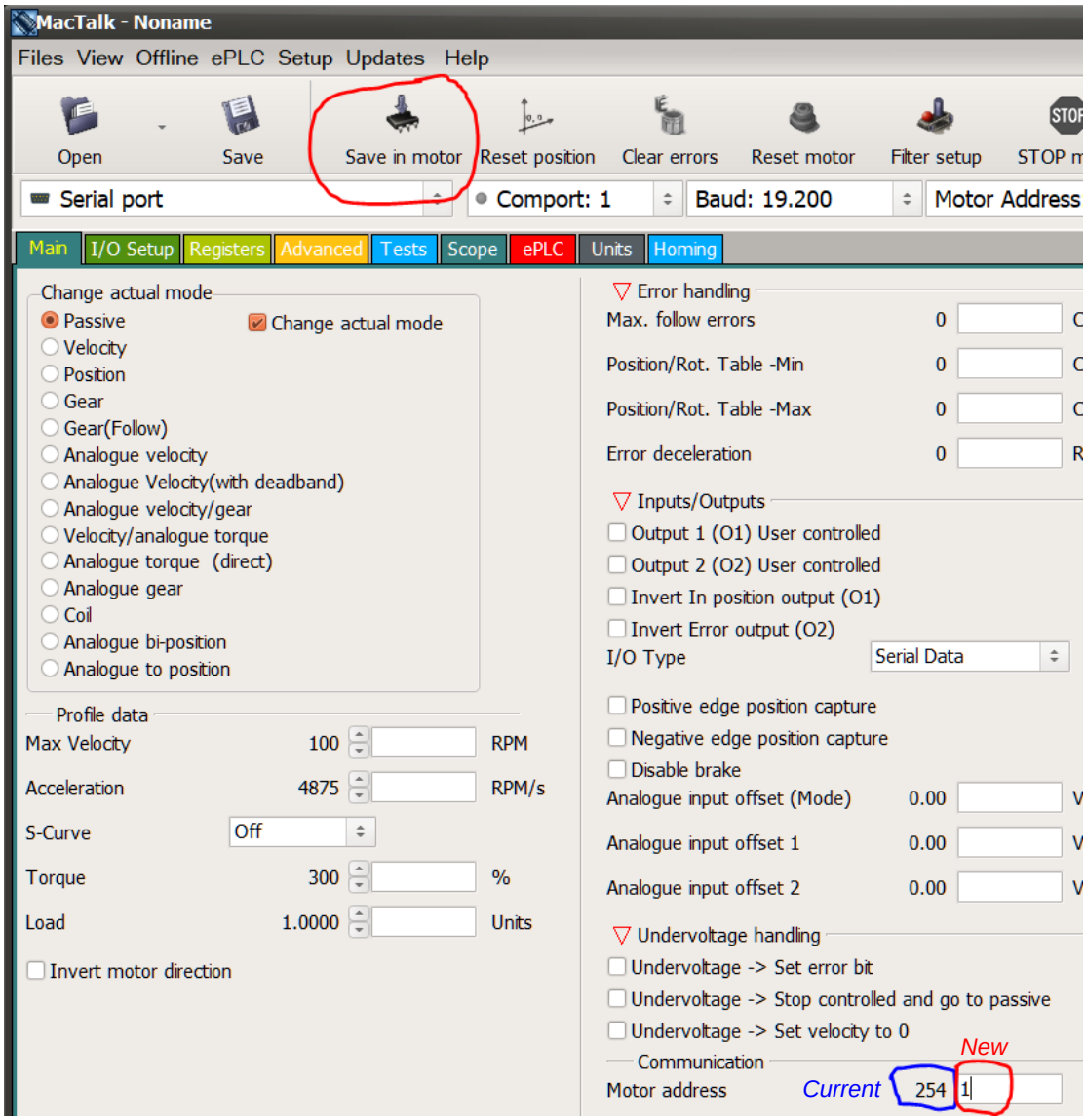


Now setup the parameters

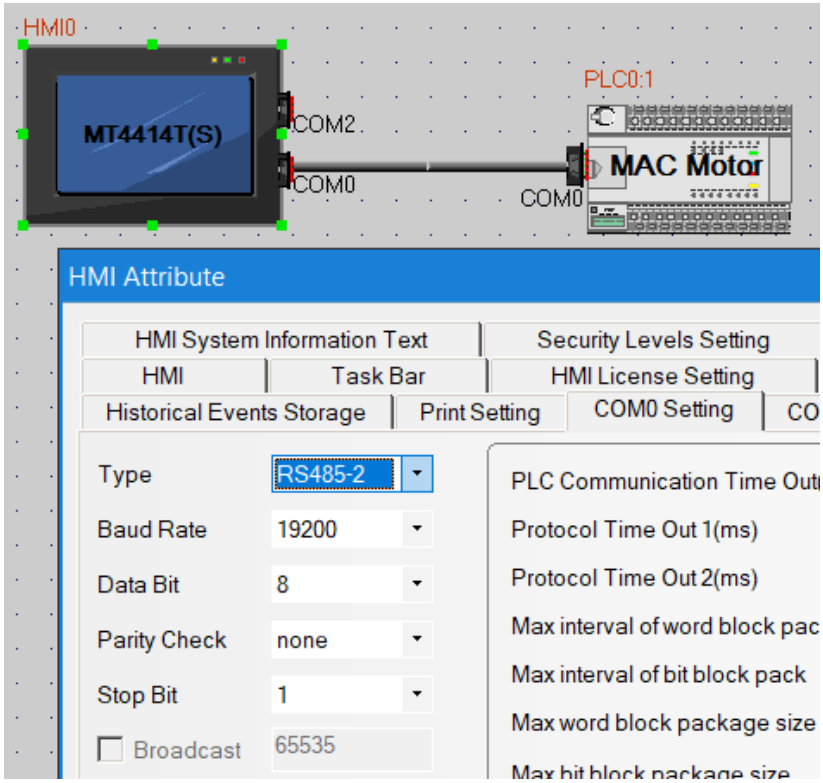
After creating the project – first check that the PLC = “MAC Motor” in Kinco software and the MAC motor or ServoStep motor have the same addresses. See below how to setup address in JVL’s MacTalk software.
MAC motor = “PLC” must have an Address No. in the range 1…254 (i.e. NOT 0 = zero).



In MacTalk® (1) key in the address on the Main tab, (2) press Enter and (3) click “Save in motor”:



Next set the “Serial Port 0 Setting” Type to either RS232 or **RS485-2**.
For ServoStep® and SMC66..85 you have to always select **only RS485-2**.
Using the WI0060 cable provided by JVL (HMI RS485 Cable 5m, MAC-R4 +MIS +SMC) you have to select **RS485-2**.



Keep values for ‘Baud Rate’ (19200), ‘Data Bit’ (8), ‘Parity’ (none) and ‘Stop Bit’ (1), and leave all other values un-changed unless you have a specific reason to change them.

On next page you can see how to design HMI screens…

2. Designing HMI screens – Register Types

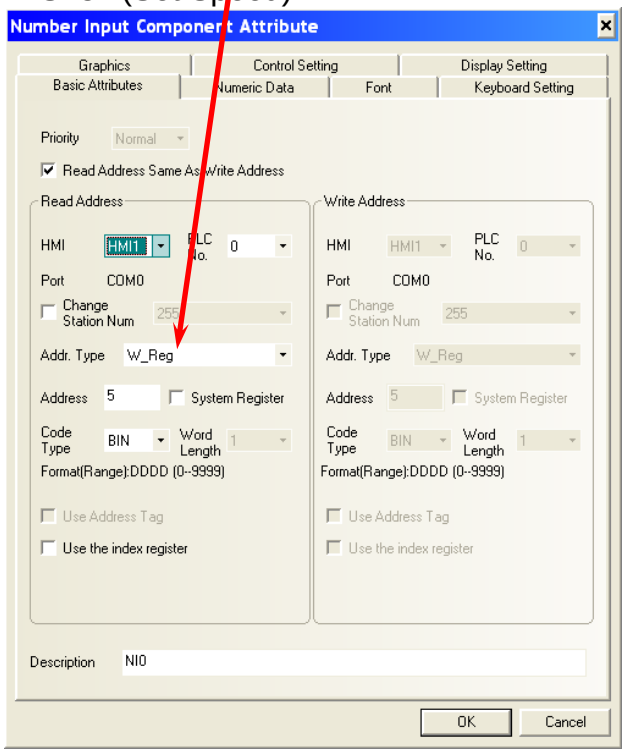
Before placing control elements on the screen which refer to Registers in the motor, you need to be aware that you must choose **Addr. Type** as either **W_Reg** or **DW_Reg**.

MAC 50..141 (1st+2nd Gen.) + MIS 23x (1st Gen)/SMC75: mix of 16 bit and 32 bit registers.

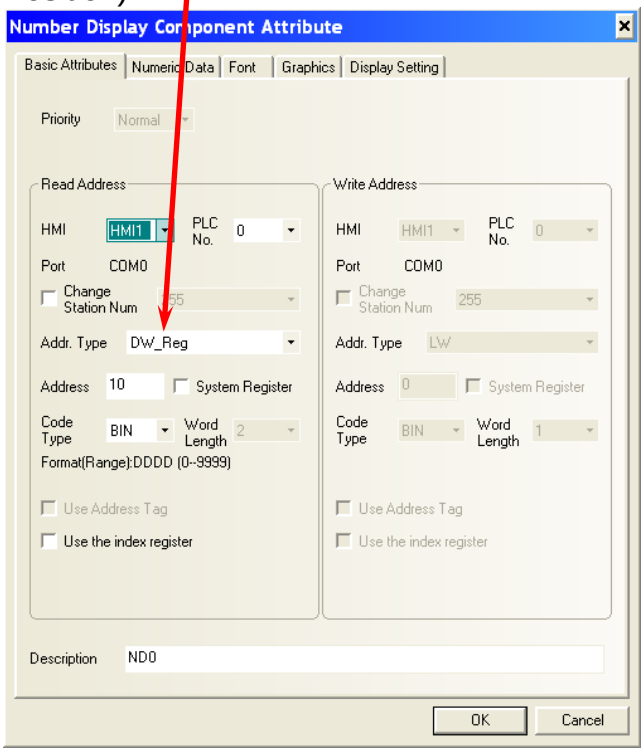
MAC400..3000, MIS17x..23x..34x..43x / SMC66/85: always ONLY 32 bit registers.

If it's a **16 bit** motor register use **W_Reg**. (MAC 50..141 + MIS 23x + SMC75).
If it's a **32 bit** motor register use **DW_Reg**. (MAC400+, MIS34x and SMC66/85).

Example of **16 bit** Number input in MIS23x (Set Speed):



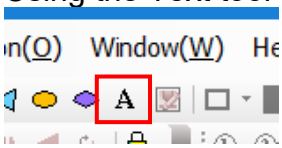
Example of **32 bit** Number display (Actual Position):



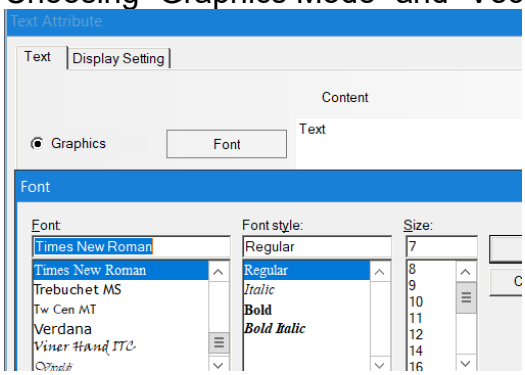
3. Placing different Controls on the Screens

Text

Using the Text tool (“A”) key in the desired text:

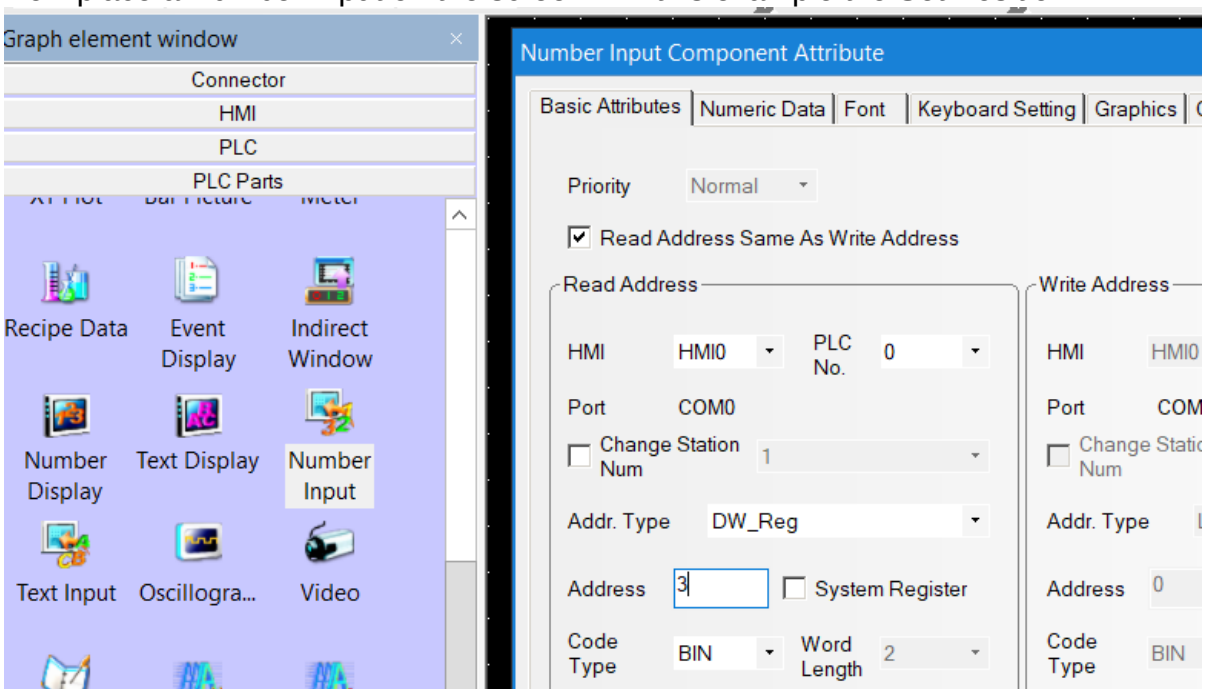


Choosing “Graphics Mode” and “Vector Font” you can specify the Font, color and size etc:

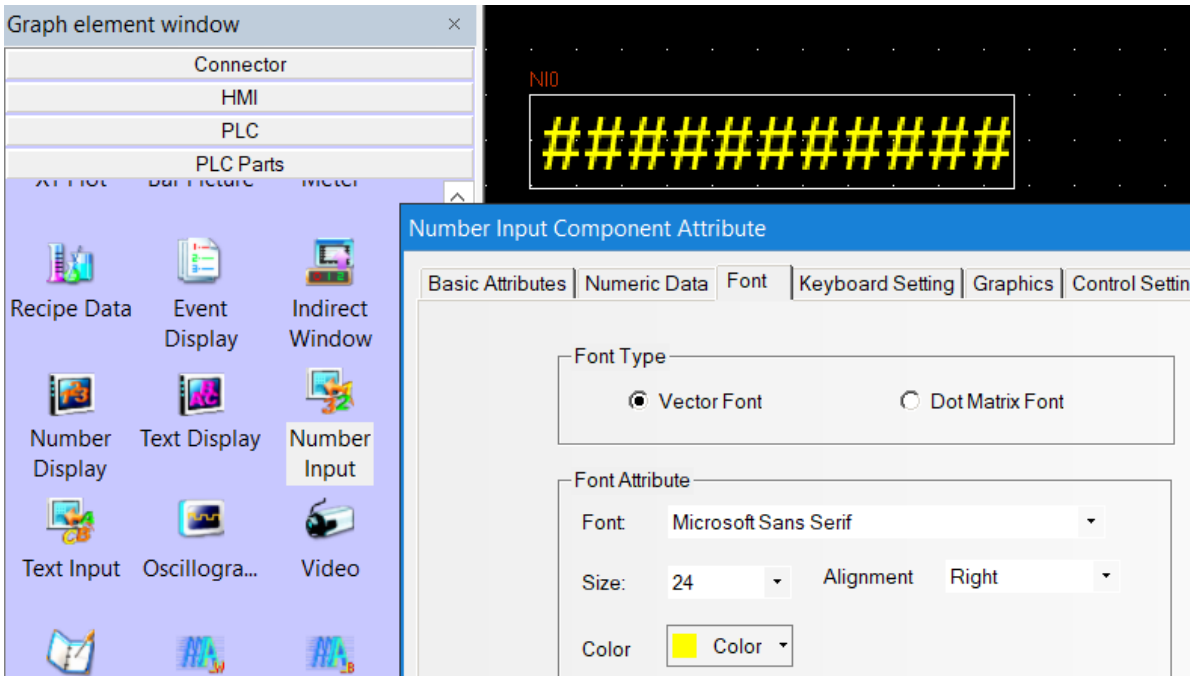


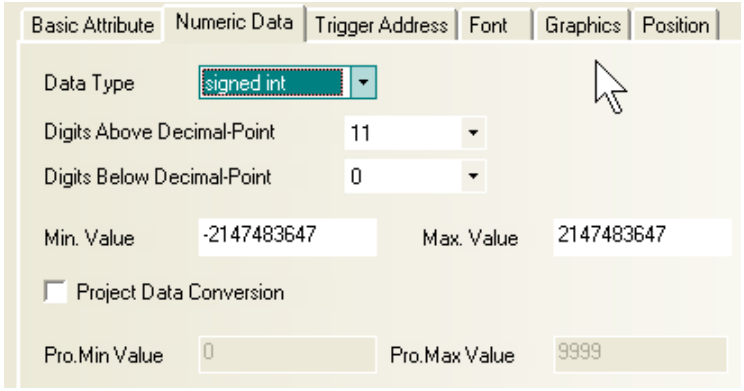
Number Input

Now place a Number Input on the screen – in this example the Set Position:

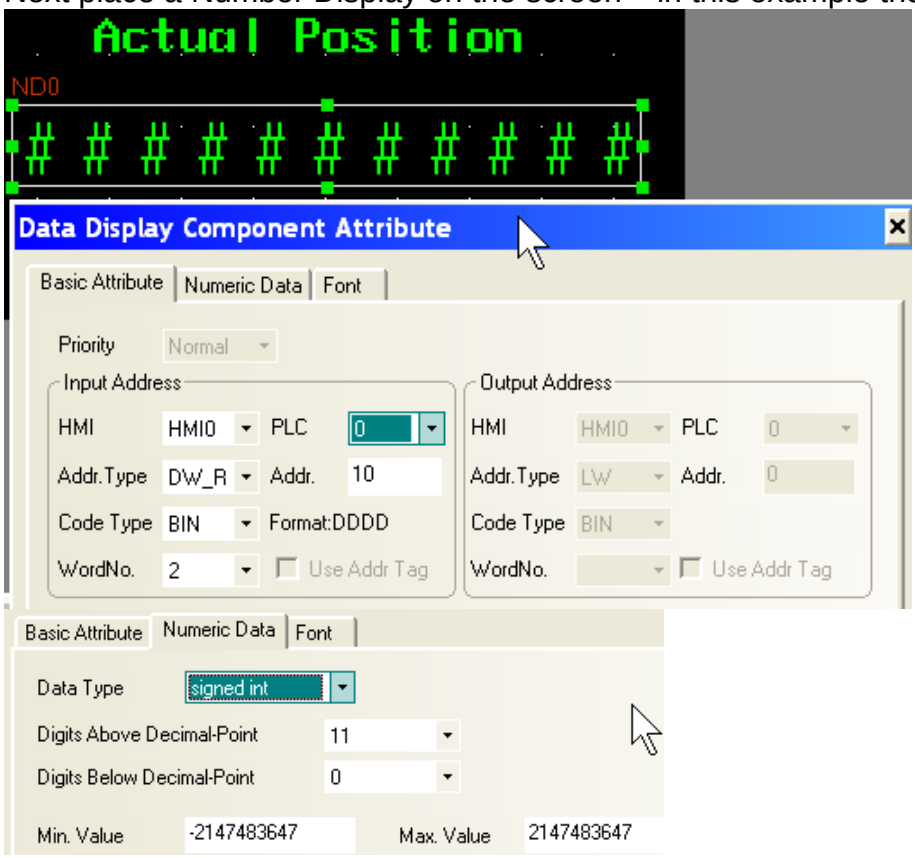


And it can look like this:

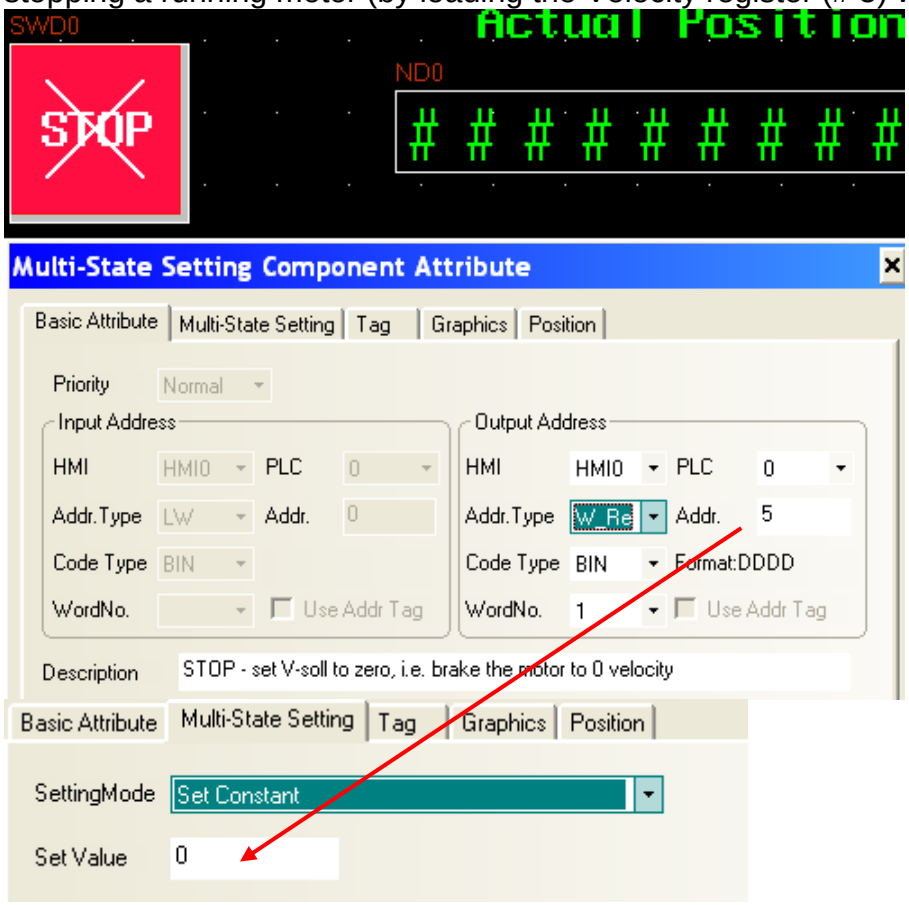


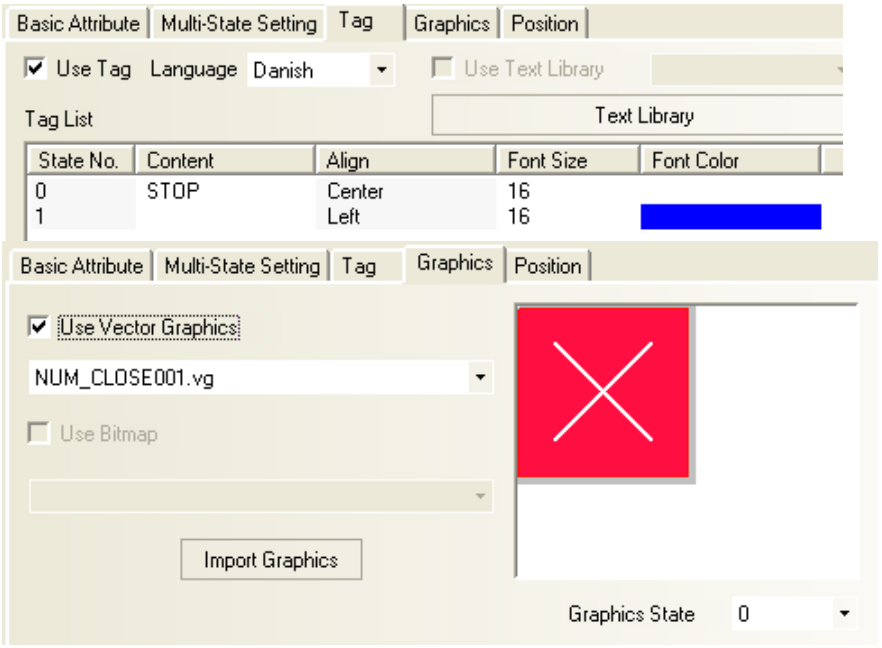


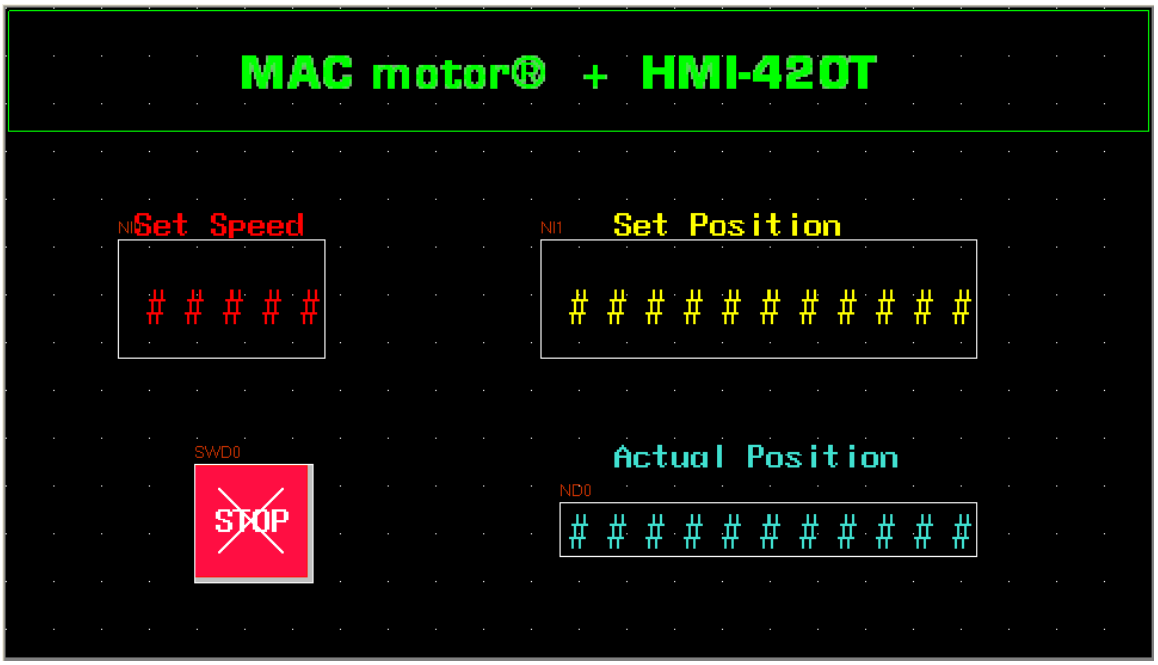
Next place a Number Display on the screen – in this example the Actual Position:



Finally place a Function Key on the screen – in this example a STOP key used for stopping a running motor (by loading the Velocity register (# 5) with 0):

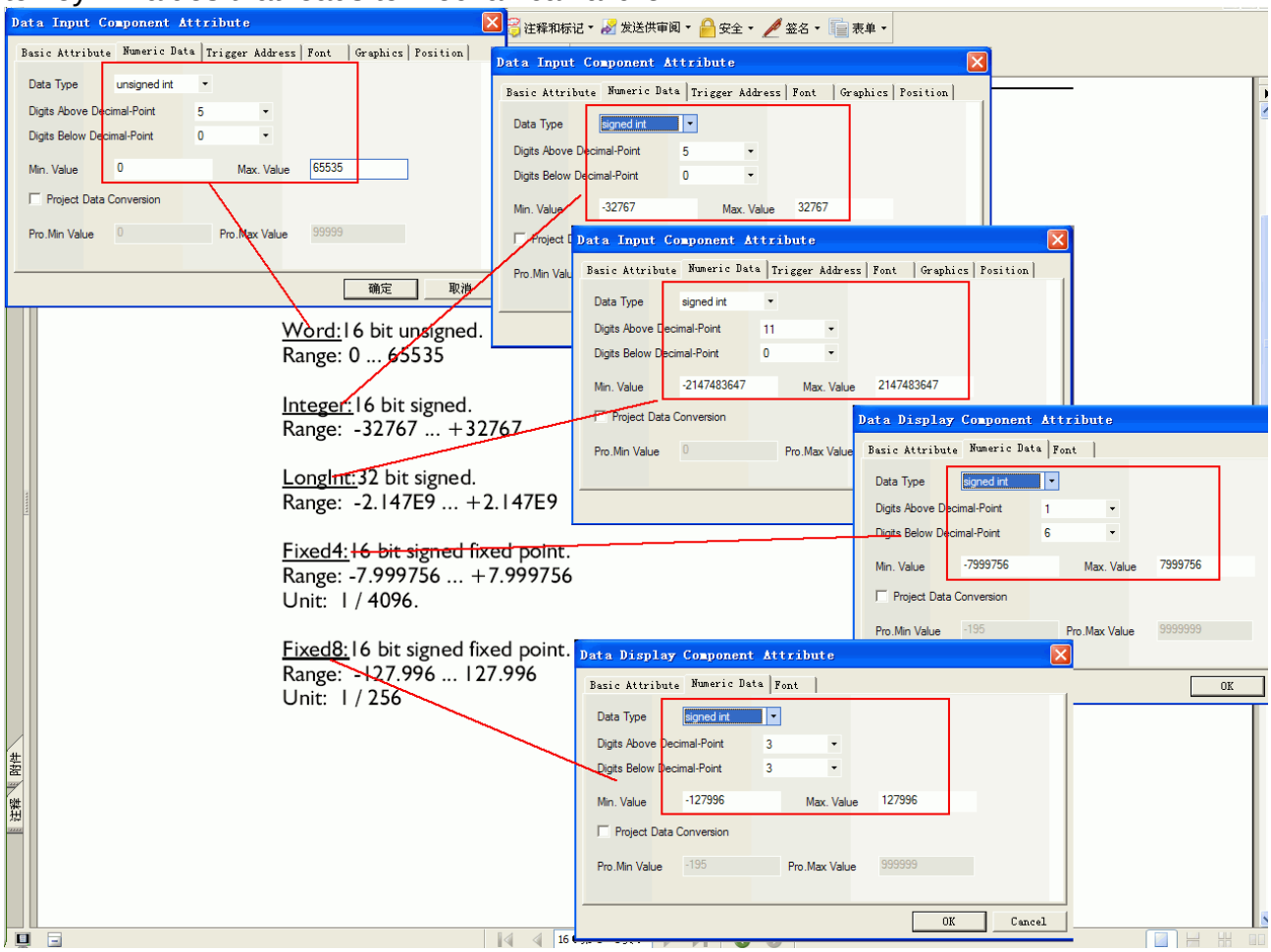



Basic Attribute
Multi-State Setting
Tag
Graphics
Position
Use Tag
Language
Danish
Use Text Library
Tag List
Text Library
State No.
Content
Align
Font Size
Font Color
0
STOP
Center
16
1
Left
16
Basic Attribute
Multi-State Setting
Tag
Graphics
Position
Use Vector Graphics
NUM_CLOSE001.vg
Use Bitmap
Import Graphics
Graphics State
0


MAC motor® + HMI-420T
NI0
Set Speed
# # # # #
NI1
Set Position
# # # # # # # # # # #
SWD0
STOP
Actual Position
ND0
# # # # # # # # # # #

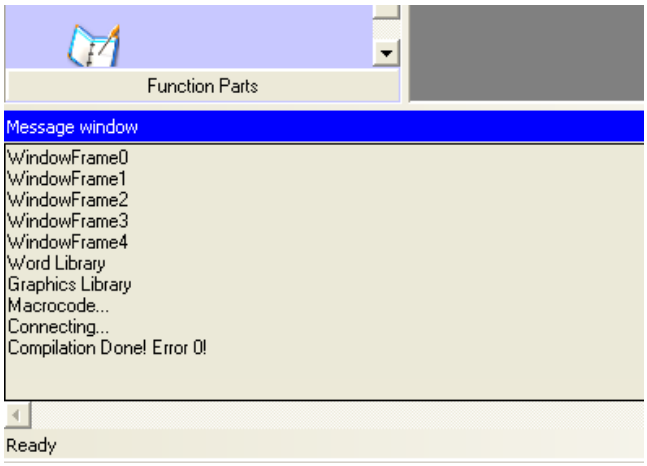
Register Types in the HMI vs in the motor controllers can be seen below.

Whenever it is necessary you can limit the register values to either the full range shown below (taken from the MAC motor manual) or to lower values thus preventing the operator to key in values that leads to mechanical failure.

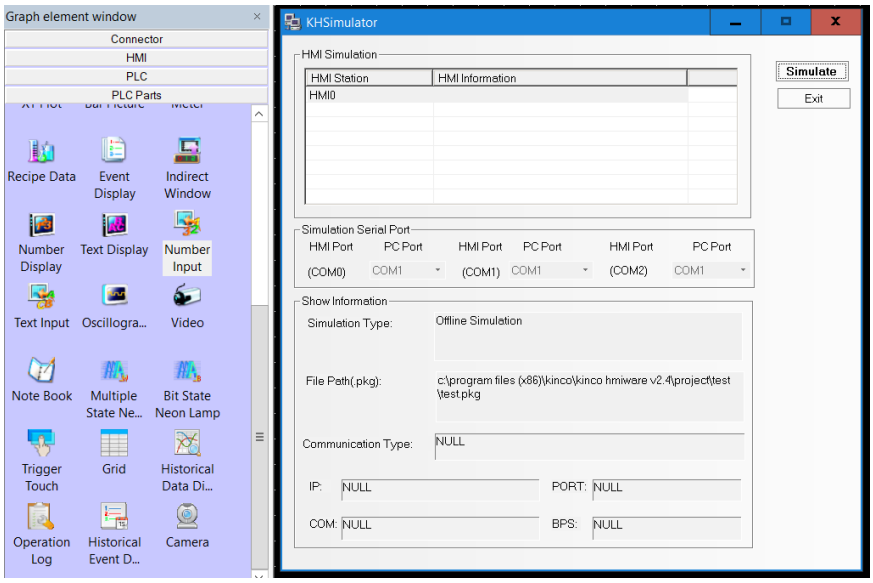


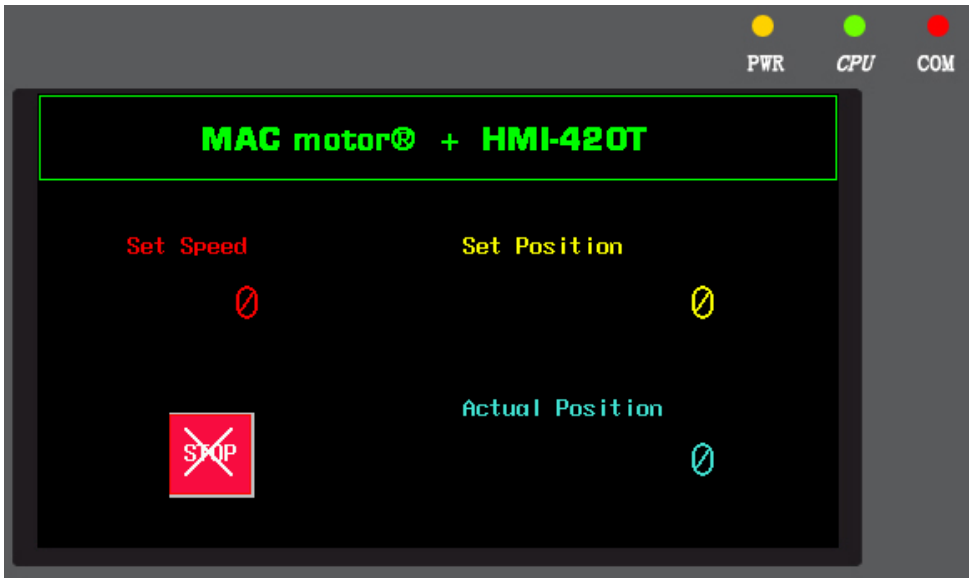
4. Save the Project and Download it to the HMI

In the File menu choose **Save All**.
Then in the Tools menu you need to **Compile** the project (Ctrl + F7) – check if there are no errors:

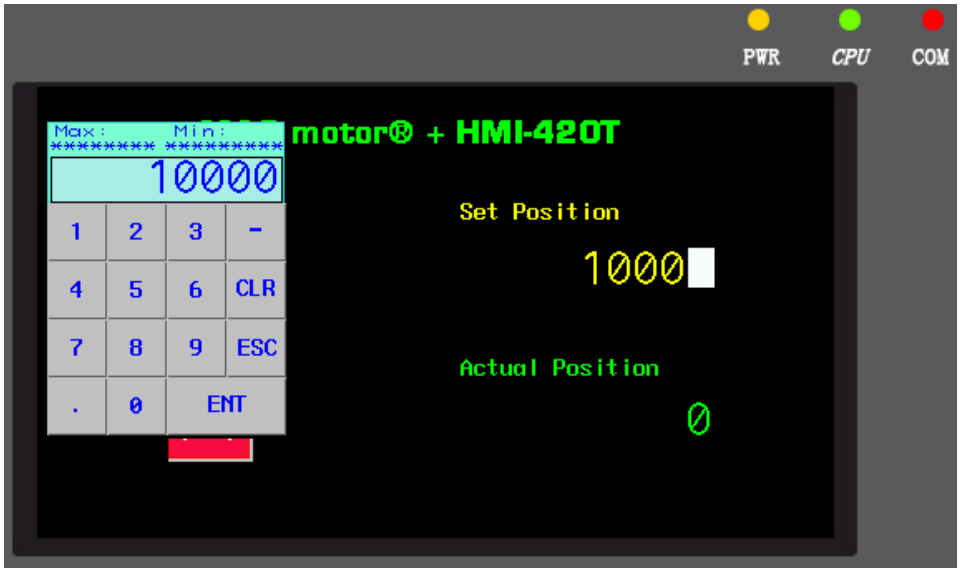


If you wish you can choose the **Offline Simulation** (F5 in the Tools menu), then click "Simulate":

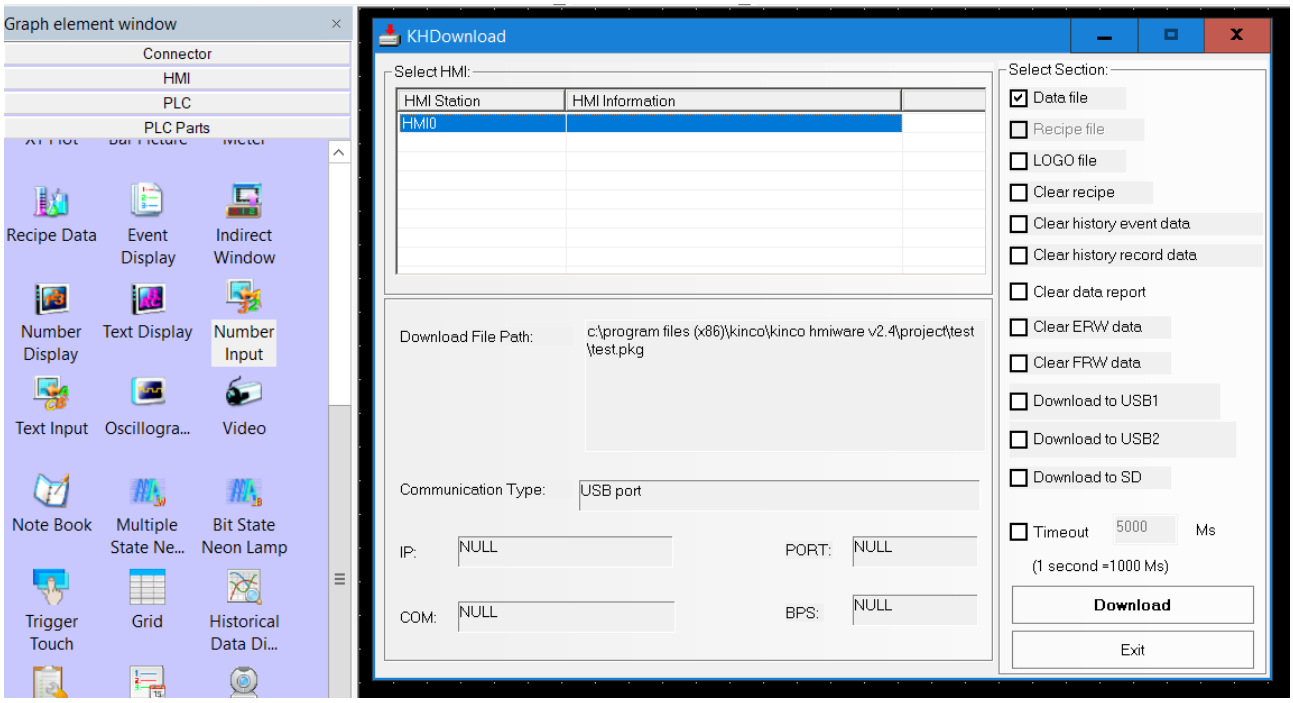




Test values can be keyed in using the mouse. Click the desired value and a keypad similar to the real pop-up keypad in the HMI will appear and you can now use the mouse to click the number buttons and finally clicking ENT (Enter):



Finally you just need to **Download** the project to the HMI from the Tools menu (Ctrl + D), then click the Download button and watch the HMI screen.



Congratulations - you have now finished your first project !