LabView TCP MODBus for MAC00-EM4

Prerequisite:

- Labview 2015 or LV86
- Using multiple Networks interface cards please see : http://www.ni.com/white-paper/12558/en/
- The example uses a MODBus library this can be downloaded here:
  http://www.ni.com/example/29756/en/

LabView MODBus example:

- Labview VI : Simpel TCP MODBus Read/Write to Register
- Labview VI : Simpel Serial MODBus Read/Write to Register
- Labview Project for continuous read of Position, Velocity, Torque. : The project is for a MAC050 with option module MAC00-EM4, but the same approach can be used for other Motors/controllers equipped with JVL MODBus TCP module.

Tips, tricks, Info

- Remember to multiply JVL register values with 2 when you need to access them via MODBus TCP.
- Using Labview 2015, Test show that the read frequency of three register values (Position, Velocity, Torque.) over TCP MODBus on a MAC050 is around 100 Hz.
- If you need fast data retrieval and perhaps from multiple Motors/Controllers please consider parallel execution, high priority and Preallocated clones. E.g. Setting Sub VI "MB Ethernet Master Query Read Coils" like this increased the read frequency from around 50 to 100 Hz.
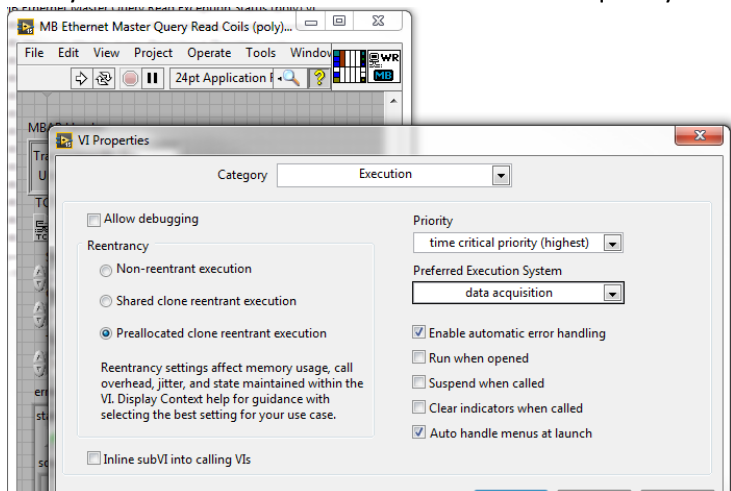
Scaling:

When reading register values scaling to something meaningful is important.
Here are the scaling factors for the Labview project included:

Posistion counts	1:1	Position reg = 32 bit
VELOCITY_FACT	1: 7.62939453125	Velocity reg = 16 bit
Torque factor	1 : 300/1023	Torque reg = 16 bit

All registers are "signed register".