PLC Control of 2 motors with synchronization
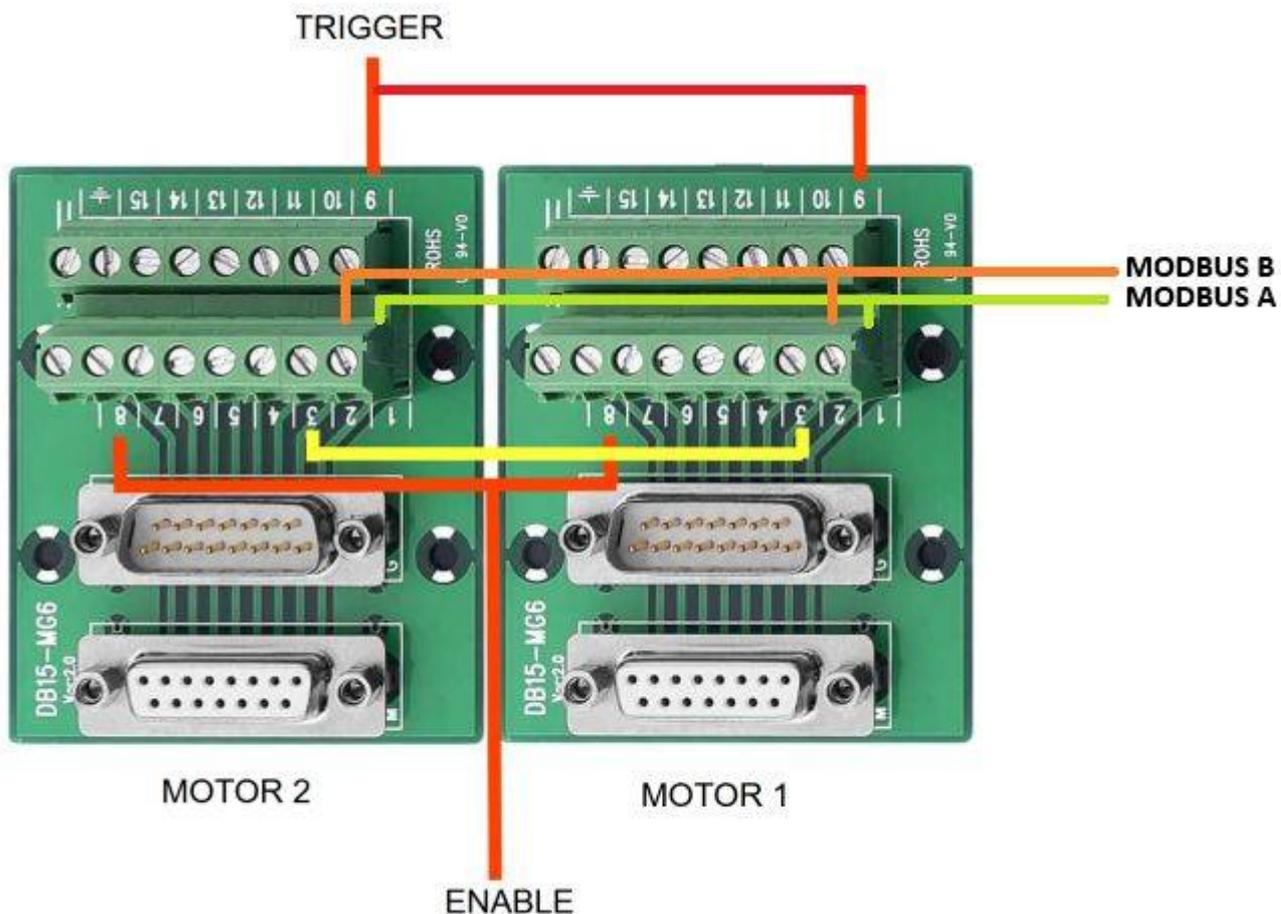
In order to control 2 motors in parallel and synhronized way, following the schema below (this example is using NiLAB NL-DB15-MG6 terminal blocks provided by NiLAB)

In the case of use of 2 x NLi080Q/X linear motor please connected the Pin 4 and Pin 5 to 24VDC and Pin 6 and Pin 7 to GND on each motor terminal blocks.
For a complete PIN description see here:https://www.nilab.at/dokuwiki/doku.php?id=integrated_drive_motors:connection_system|

2 outputs line must be provided from the PLC: Enable and Trigger. These are 24VDC level signals used to Enable (**Pin 8** of each motor, first enable from power cycle automatically starts the homing procedure) and Trigger (**Pin 9** of the two motors). In order to communicate using MODBUS RTU bus the Pin 1 and Pin 2 must be connected in parallel to the PLC modbus port.

Please make sure that the two motors on the MODBUS have 2 different MODBUS Address (ID Node) before connecting the MODBUS lines together.
The parameter to chage is: **Parameter 1 Device ID** in the Parameter window inside NiLAB Starter software.

MOTOR 1

Supply and MODBUS/CAN

4636	Drive Power Supply	24	Volts
1	Device ID	1	
220	CanOPEN Baudrate	0 -> 1 Mbit/sec	

MOTOR 2

Supply and MODBUS/CAN

4636	Drive Power Supply	24	Volts
1	Device ID	2	
220	CanOPEN Baudrate	0 -> 1 Mbit/sec	

Then, select on each motors the option **I/O control - Parameter 4097** in Motion controller window of NiLAB Starter software.

4098	Digital Output 2
In Position	

4097 ☑ I/O control

Finally, set the Trigger mode in each motors to synchronize the two motors motion, for example at every rising edge of Digital Input 1.

...hanged and not downloaded
...ownloaded / uploaded correctly

179

...ng	Trigger mode	**Motio**
0 msec	DIG IN risin	
0 msec	IG IN rising	Mo
0 msec		