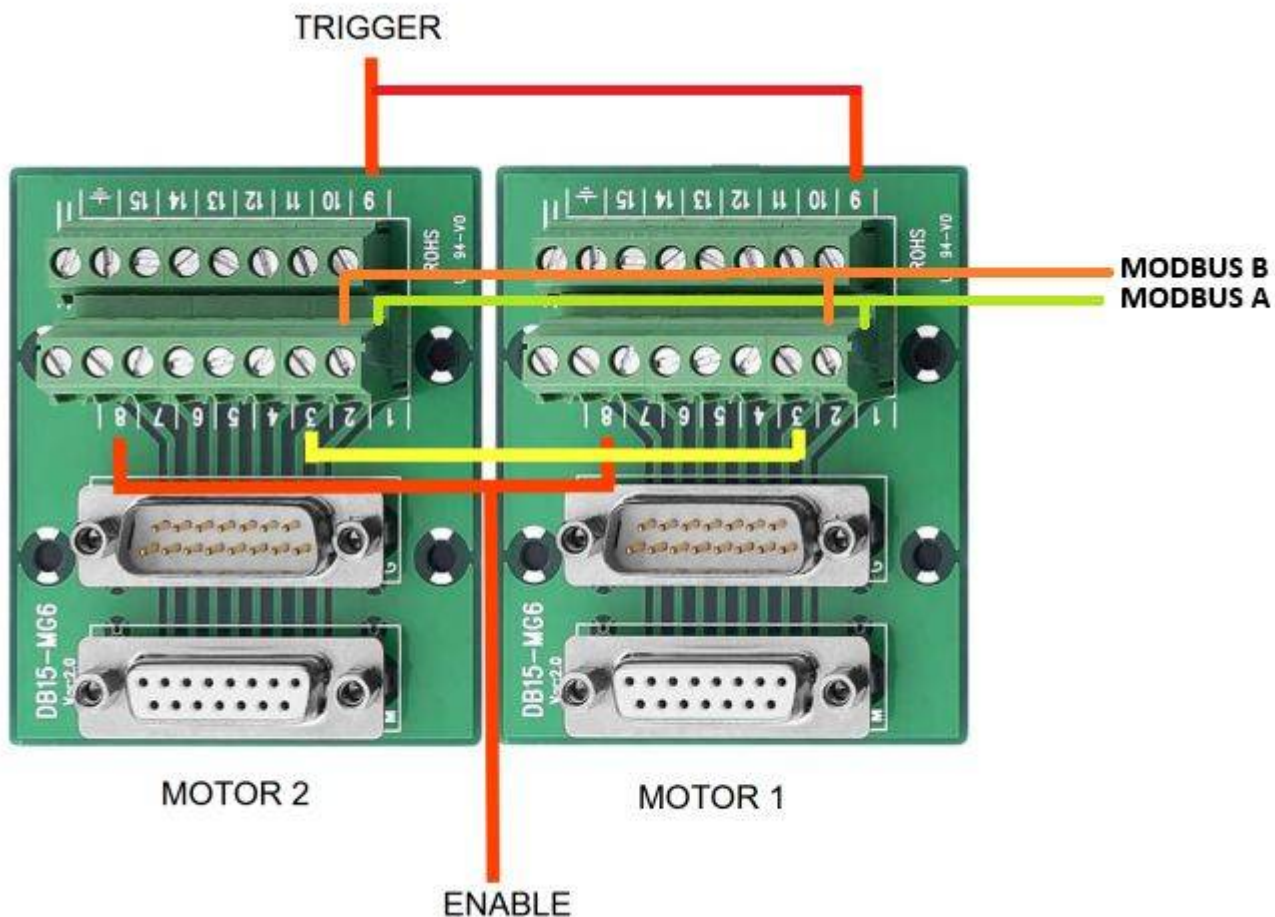


# PLC Control of 2 motors with synchronization

In order to control 2 motors in parallel and synchronized 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](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 change is: **Parameter 1 Device ID** in the Parameter window inside NiLAB Starter software.

| MOTOR 1                             | MOTOR 2                             |
|-------------------------------------|-------------------------------------|
| Supply and MODBUS/CAN               | Supply and MODBUS/CAN               |
| 4636 Drive Power Supply 24 Volts    | 4636 Drive Power Supply 24 Volts    |
| 1 Device ID 1                       | 1 Device ID 2                       |
| 220 CanOPEN Baudrate 0-> 1 Mbit/sec | 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.

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.

Trigger mode  
DIG IN rising  
DIG IN rising

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