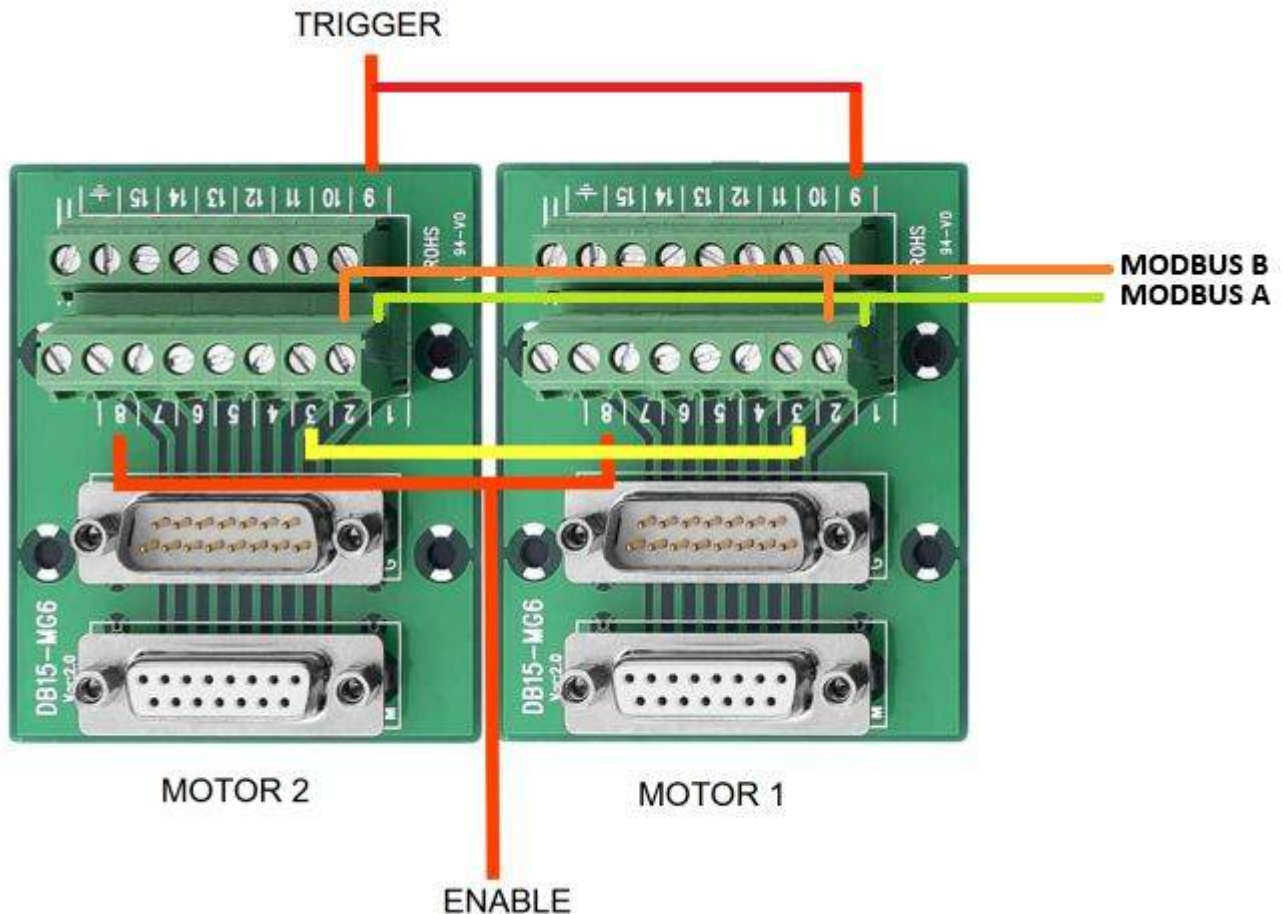


PLC Control of 2 motors with synchronization

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

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.

The screenshot shows a configuration window for a motion controller. It features a dropdown menu labeled 'Digital Output 2' with 'In Position' selected. Below this, parameter '4097' is checked and labeled '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.

The screenshot shows a 'Trigger mode' configuration window. It has three rows, each with a numeric input (set to 0) and a unit 'msec'. The first row has a dropdown set to 'DIG IN risir'. The second row has a dropdown set to 'IG IN rising'. The third row has an empty dropdown. To the right, there are labels 'Motio' and 'Mo'.

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