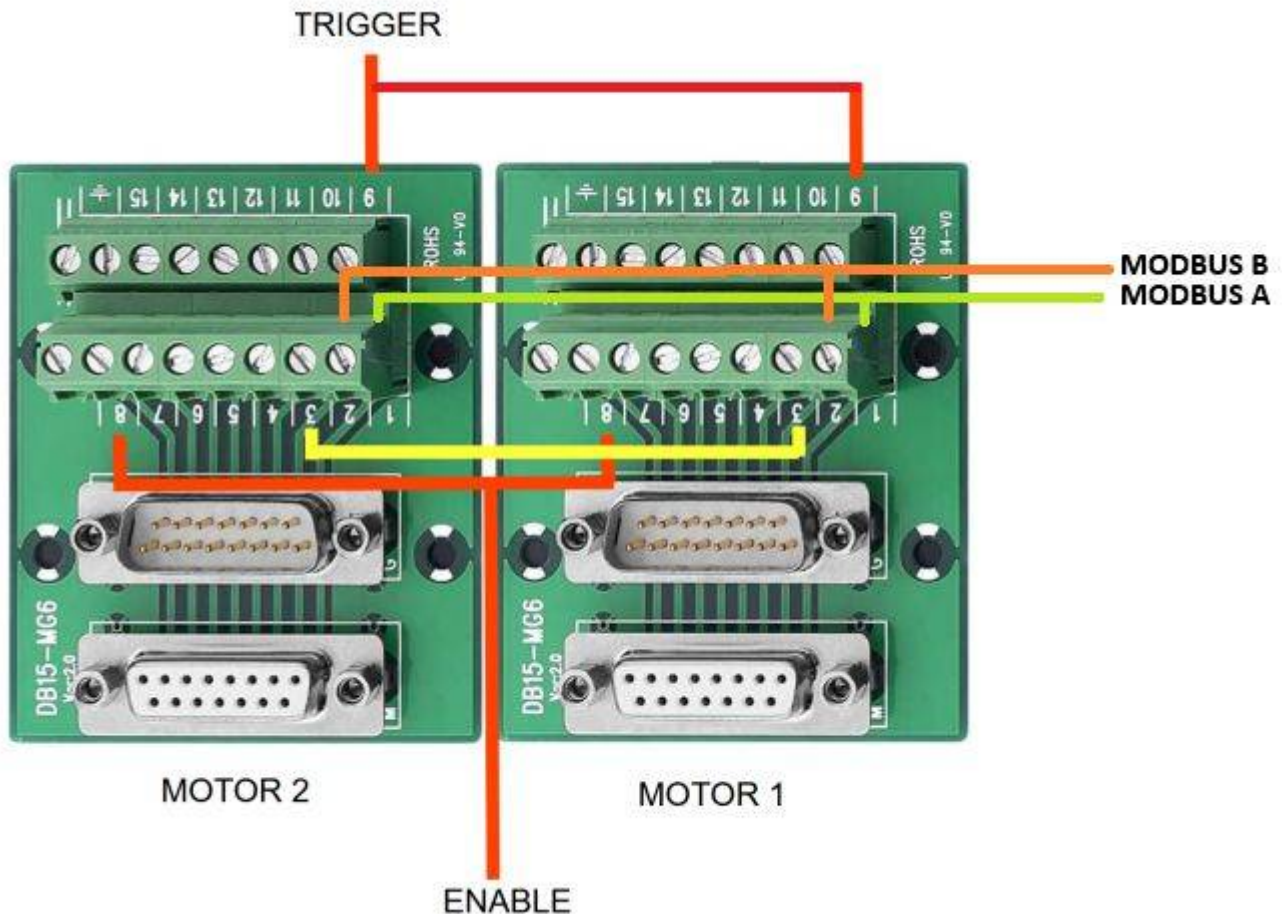


PLC Control of 2 motors with synchronization

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

The screenshot shows a configuration window for a motion controller. It features a list of parameters on the left and a detailed view on the right. In the detailed view, parameter 4098 is labeled 'Digital Output 2' and is set to 'In Position'. Below it, 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), a unit selector (set to msec), and a dropdown menu. The first dropdown is set to 'DIG IN rising', the second to 'IG IN rising', and the third is empty. To the right, there are labels 'Motio' and 'Mo'.

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