Technical Publication PH018

Olympus Lexium Servo Motor Setup and Wiring for Revolution Gates

Rev. 00

Table of Contents

List of Illustrations

This document describes how to wire and setup the Olympus Lexium servo motor for all FastBack® Revolution Gates.

Wiring

It is extremely important that the Olympus Lexium Servo Motor be wired correctly. Thus, after running the cable throught the cable grip follow these procedures.

Note: *The set screws on the connector require a FINE small screwdriver, anything larger will strip the screws and cause problems later.*

Communications Cable

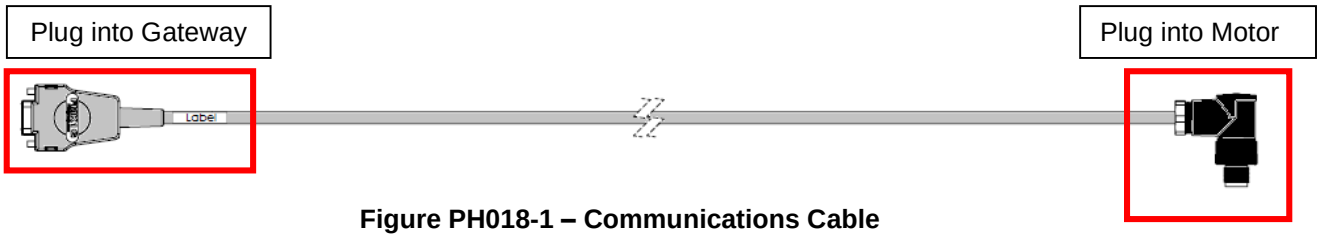
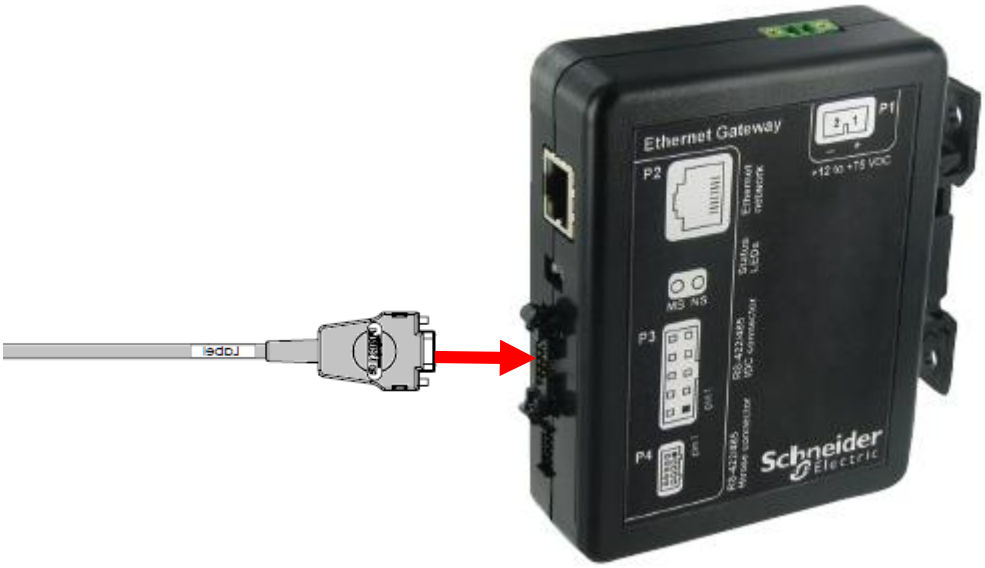


Figure PH018-1 – Communications Cable

1. Attach the end indicated in Figure PH018-1 to the Gateway (see Figure PH018-15).



2. Remove the plug from the motor end of the cable (see Figure PH018-1).
3. Run the cable through the cord grip, make sure there is enough cable to reach the motor.
4. Cut off the excess.

Reassemble the Plug

5. Re-attach the white wire to port 1 as shown in Figure PH018-2.

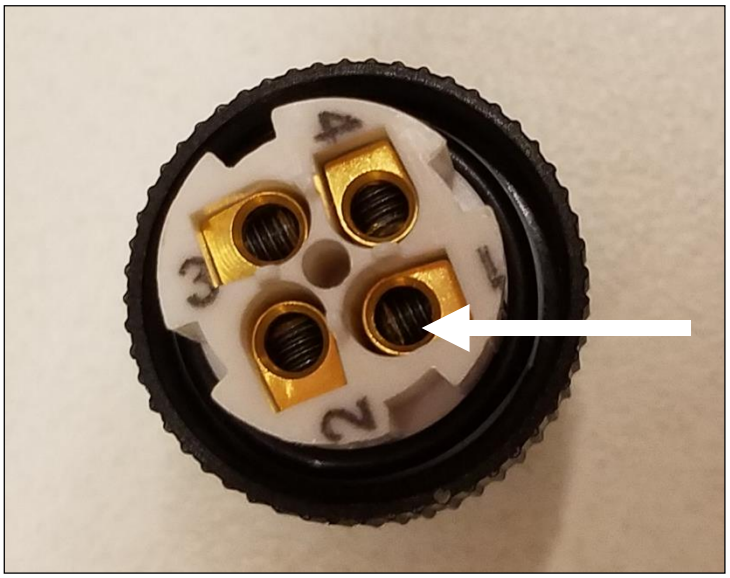


Figure PH018-2 – Number 1, White Wire

6. Re-attach the brown wire to port 2 as shown in Figure PH018-3.

Figure PH018-3 – Number 2, Brown Wire

7. Re-attach the green wire to port 3 as shown in Figure PH018-4.

Figure PH018-4 – Number 3, Green Wire

8. Re-attach the yellow wire to port 4 as shown in Figure PH018-5.

Figure PH018-5 – Number 4, Yellow Wire

9. Re-attach the gray wire to port 5 as shown in Figure PH018-18.

Figure PH018-6 – Number 5, Gray Wire

10. The completed assembly should look like Figure PH018-7.

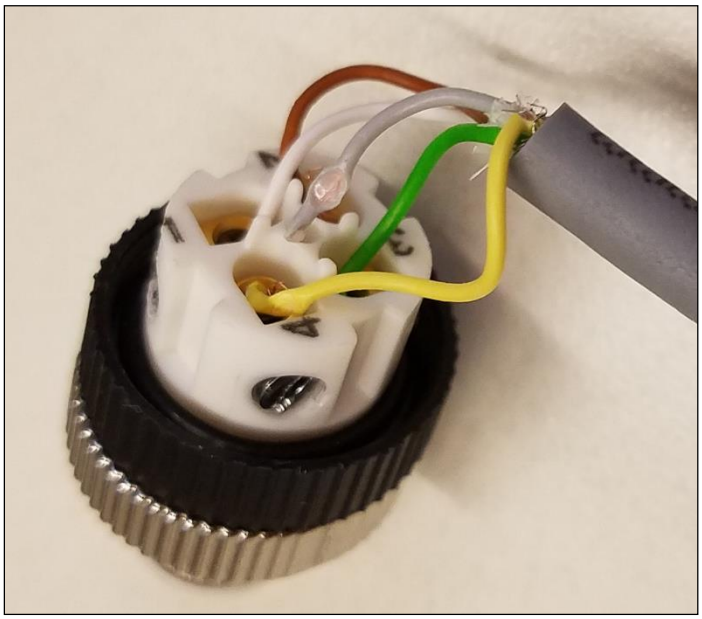


Figure PH018-7 – Completed Assembly

11. Reassemble the housing to the cable.

12. Attach the cable to the Motor (see Figure PH018-21). Make sure the plug is oriented as shown.

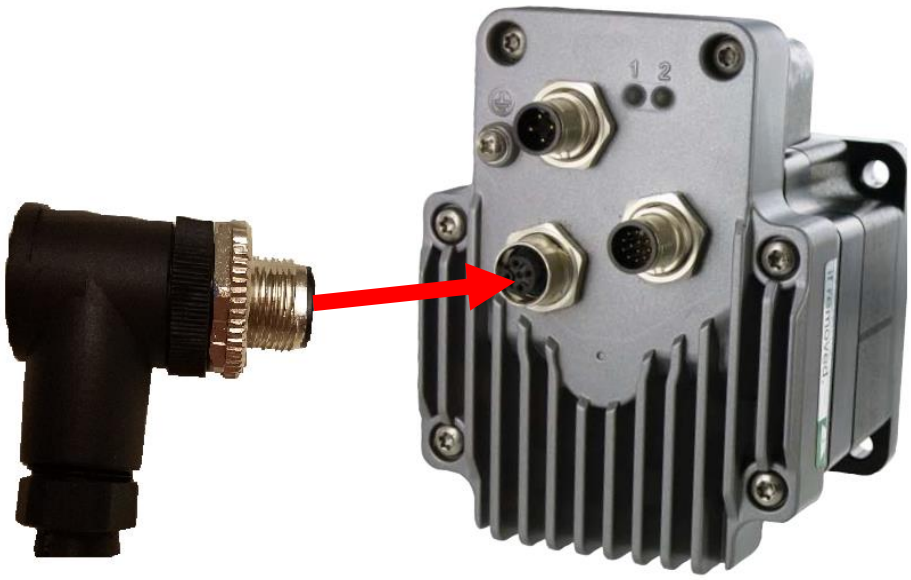


Figure PH018-8 – Communication Cable Connection to Motor

Power Cable

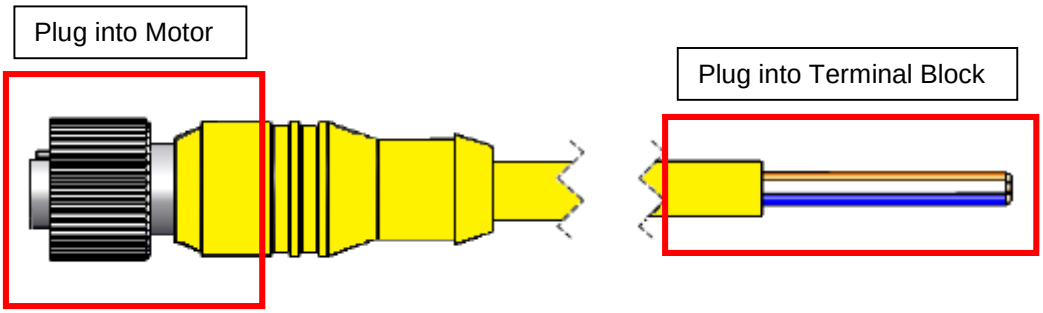


Figure PH018-9 – Power Cable

1. Plug the power cable (4 pin female) into the appropriate slot in the motor (see Figure PH018-10).

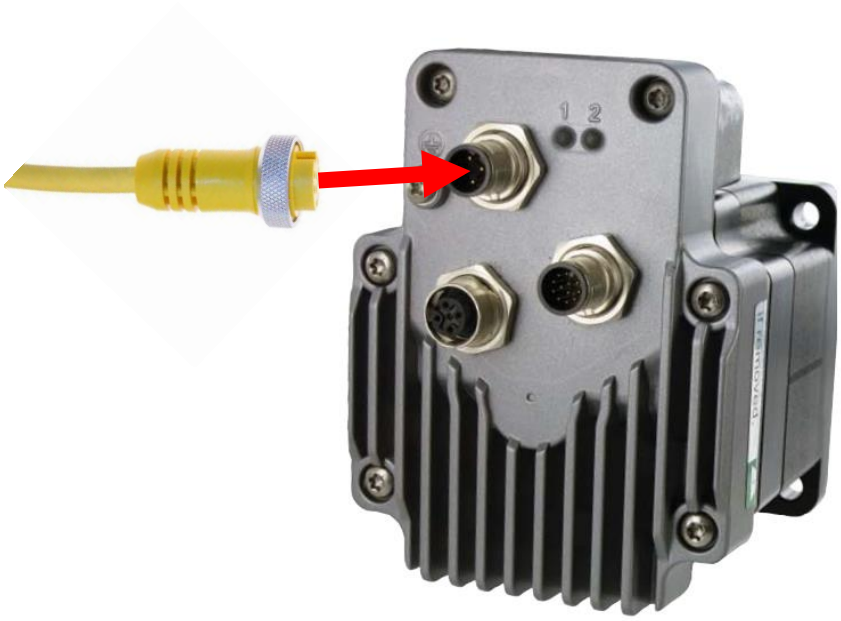


Figure PH018-10 – Power Cable Connection to Motor

2. Run the cable through the cable grip to the Terminal Block.
3. Cut off the excess.

4. Plug the wires into the terminal block as shown in Figure PH018-11.

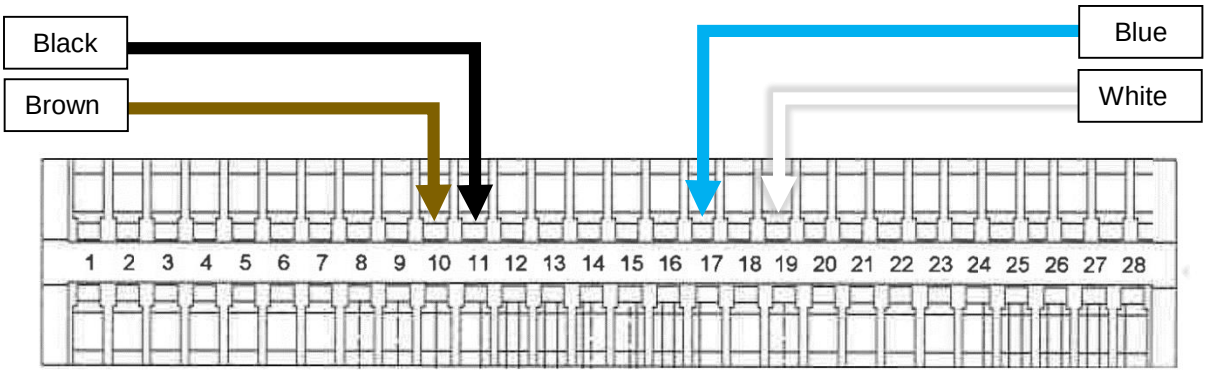


Figure PH018-11 – Terminal Block Wiring

Place wires in the following slots:

Brown	10
Black	11
Blue	17
White	19

Table PH018-1 – Terminal Block Wiring

Initial Setup

Change your laptop's IP Address to match the drive, so they can communicate and the laptop can be used to configure the drive.

The Olympus Lexium MDrive LMDCE573 is shipped with a factory default IP Address as follows.

- IP Address: 192.168.33.1
- Subnet Mask: 255.255.0.0

1. Connect 48 VDC power to the Lexium MDrive.

2. Connect Ethernet cable from your laptop to the Lexium MDrive.

3. Change your laptop's LAN IP address to 192.168.33.220, and the subnet mask to 255.255.255.0 by doing the following:

a. Open Network and Sharing Center.

b. In the System Tray, right-click the network icon.

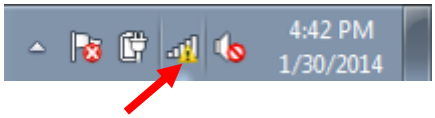


Figure PH018-12 – System Tray, Network Icon

Network Connections opens.

c. Click "Open Network and Sharing Center".

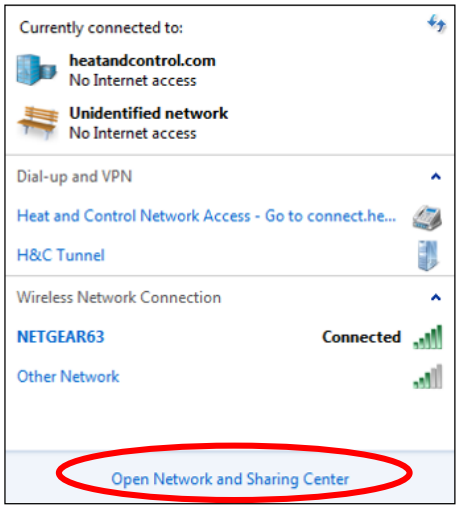


Figure PH018-13 – Network Connections

Network and Sharing Center opens.

d. Click “Local Area Connection”.

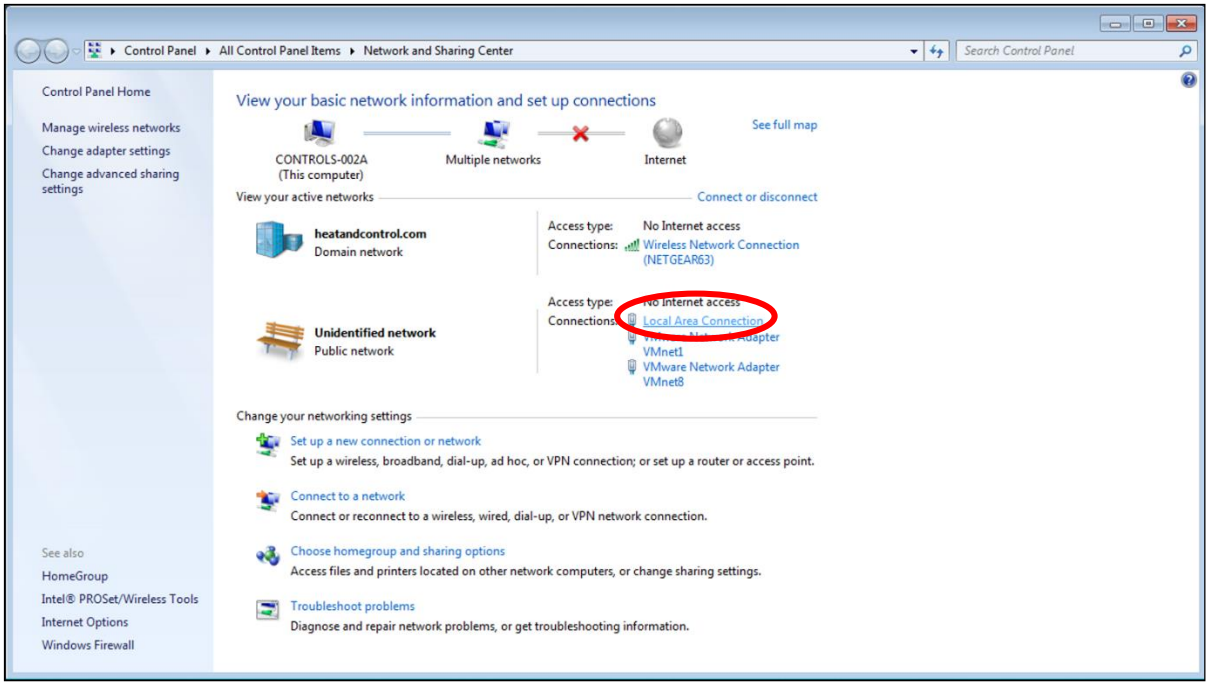


Figure PH018-14 – Network and Sharing Center

Local Area Connection Status opens.

e. Click “Properties”.

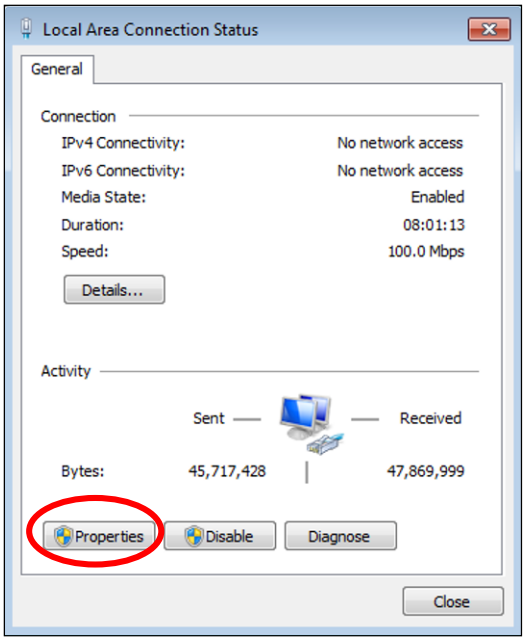


Figure PH018-15 – Local Area Connection Status

The Local Area Connection Properties window opens.

f. Select “Internet Protocol Version 4 (TCP/IPv4)” and click “Properties”.

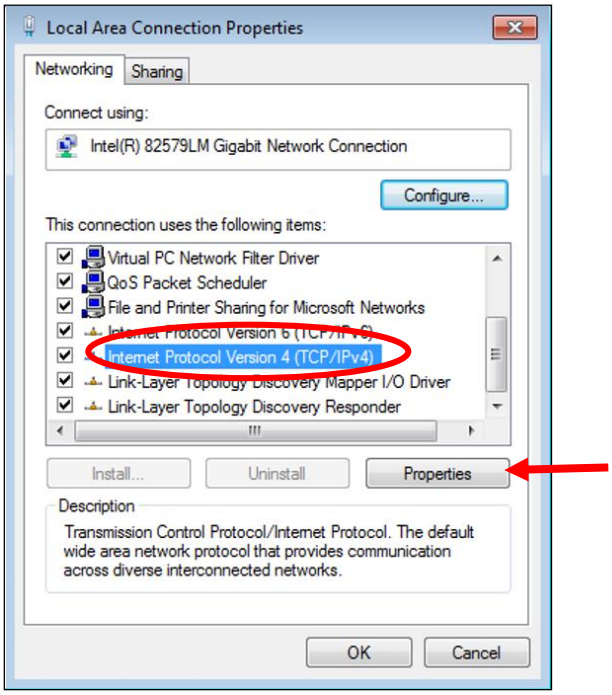


Figure PH018-16 – Local Area Connection Properties

The Internet Protocol Version 4 (TCP/IPv4) Properties window opens.

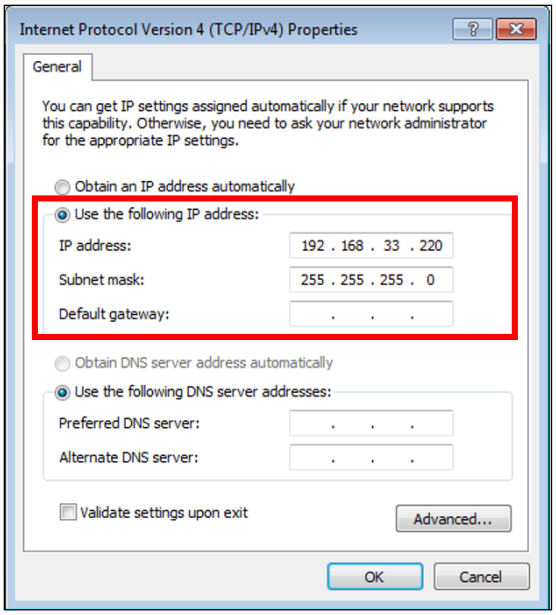


Figure PH018-17 – Change IP Address and Subnet Mask

g. Change the IP address to 192.168.33.220 and the subnet mask to 255.255.255.0. The window should look exactly like Figure PH018-17.

h. Click OK, twice, and then close the Local Area Network Status and the Network and Sharing Center.

4. On the desktop, double-click the Lexium MDrive Software Suite icon.

Figure PH018-18 – Lexium MDrive Software Suite Desktop Icon

5. When the program opens, click “Launch Lexium MDrive Ethernet Interface.

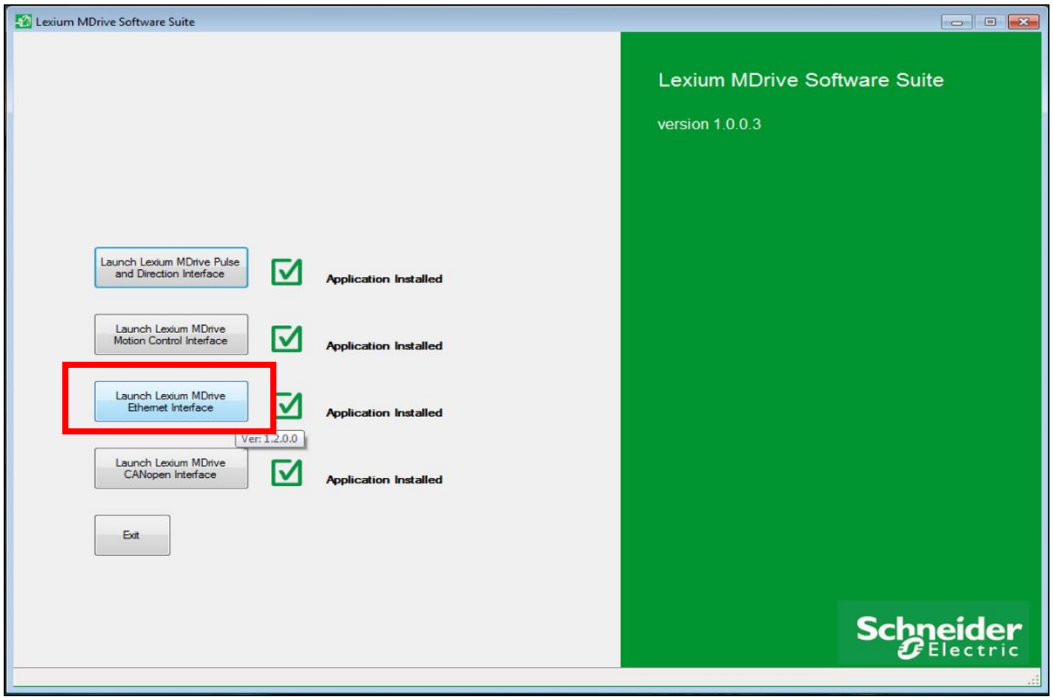


Figure PH0 18-19 – Lexium MDrive Software

6. The Lexium MDrive Ethernet TCP/IP Configuration Utility opens.

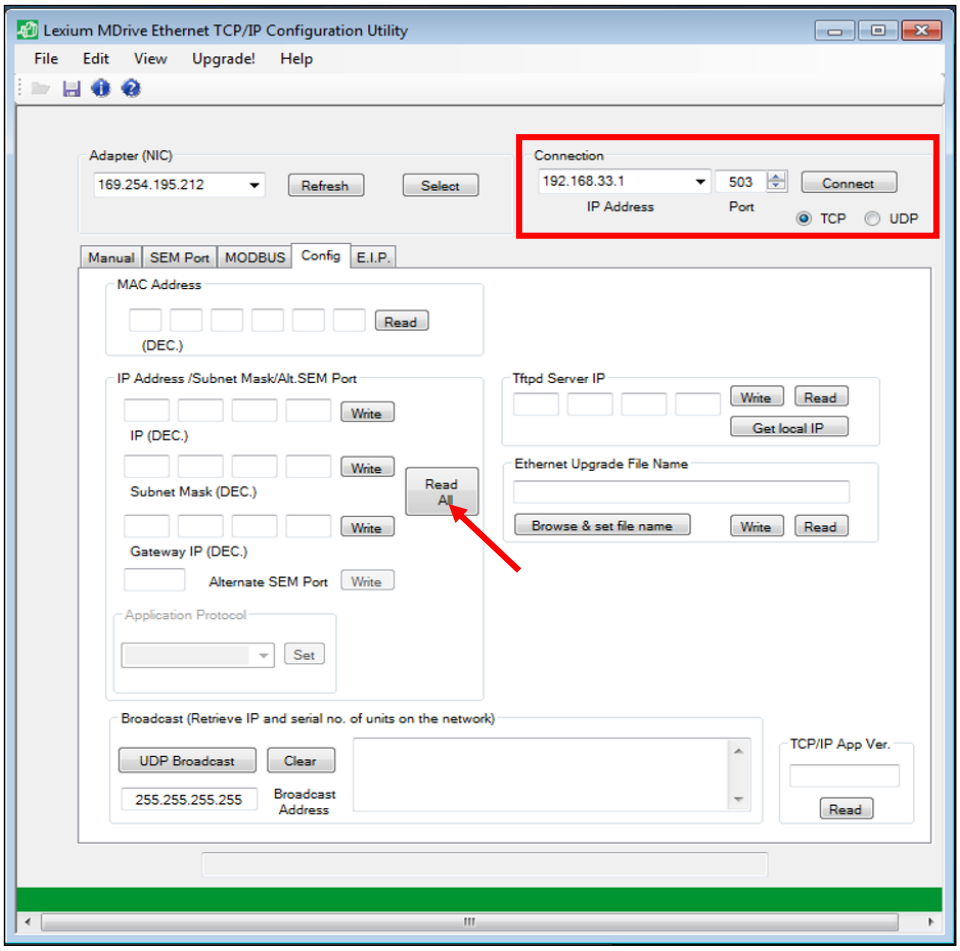


Figure PH018-20 – TCP/IP Configuration Utility

7. Make sure the Connection box shows 192.168.33.1 as the IP Address.
8. Click “Connect”.
9. Select the Config tab.
10. Click “Read All”.

The window populates (see Figure PH018-21).

Note: Connection information is at the bottom of the screen.

11. Verify or change the IP address and/or subnet mask. They should be 192.168.33.1 for the IP address and 255.255.255.0 for the subnet mask.

12. Make sure the Application Protocol is EtherNet/IP.

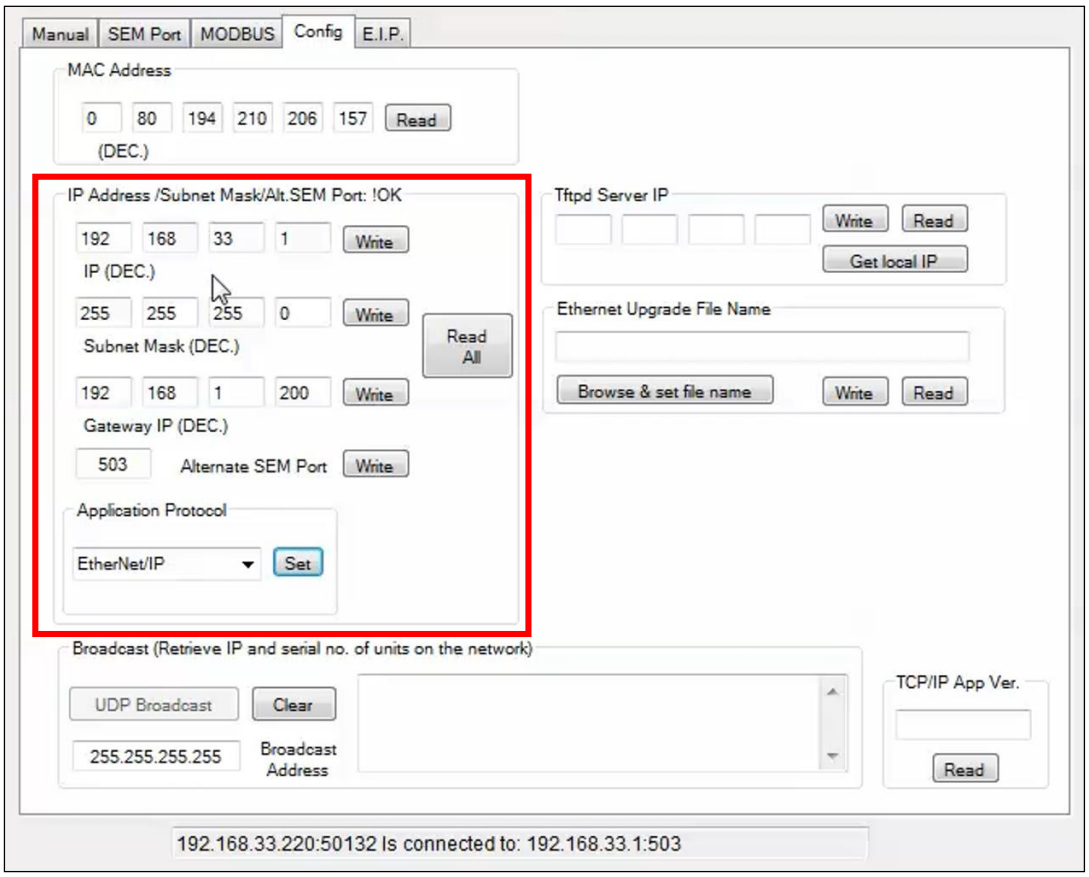


Figure PH018-21 – Config. Window

Make sure your screen looks exactly like Figure PH018-21.

13. Select the E.I.P. tab.

14. Configure the input devices to look **exactly** like Figure PH018-22.

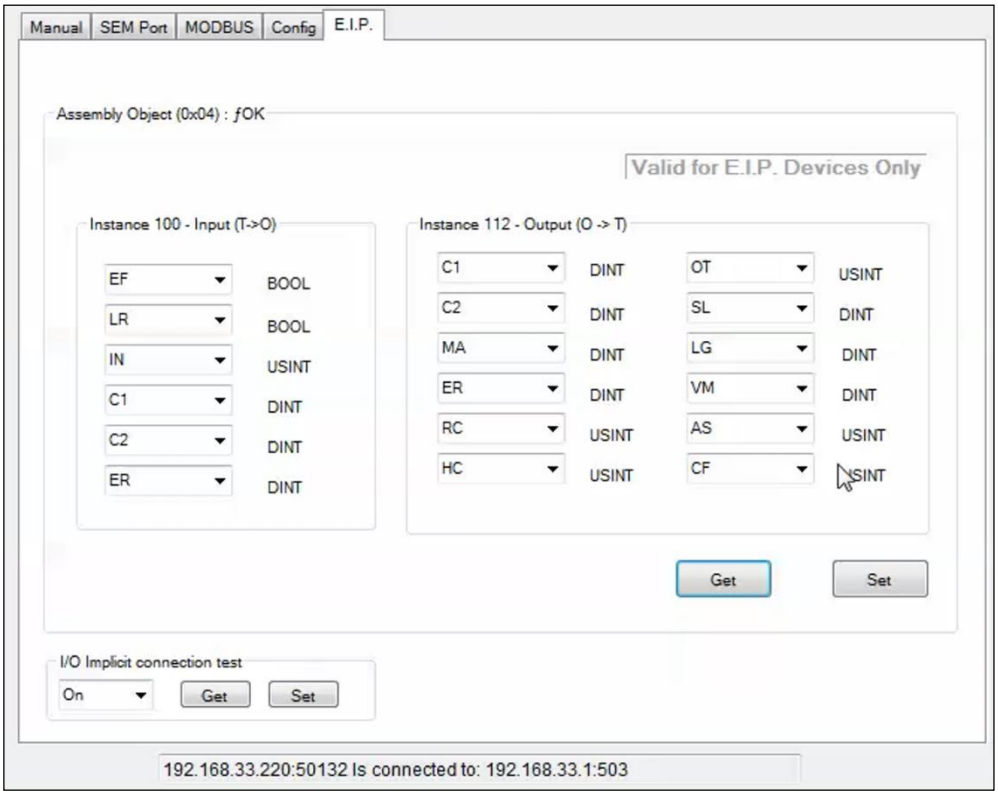


Figure PH018-22 – E.I.P Tab

15. Select the SEM Port tab.

    To read the Lexium MDrive status parameter type “PR” + “Parameter Name”.

    (i.e. PR A => parameter read acceleration setpoint.)

    To set Acceleration = 1,000,000 type the following in the command line.

    - A = 1,000,000 <Enter>

16. Manually set the following parameters as listed below:
    - A = 1000000 <Enter> (Acceleration)
    - D = 2000000 <Enter> (Deceleration)
    - LD = 5000 <Enter> (Rotor Lead Limit)
    - LG = 5000 <Enter> (Rotor Lag Limit)
    - VM = 2000000 <Enter> (Maximum Velocity)
    - AS = 2 <Enter> (Hybrid Mode => Variable Current)
    - HC = 5 <Enter> (Hold Current)
    - RC = 25 <Enter> (Run Current)
    - S <Enter> (To Save parameter setting to Non-Volatile Memory)

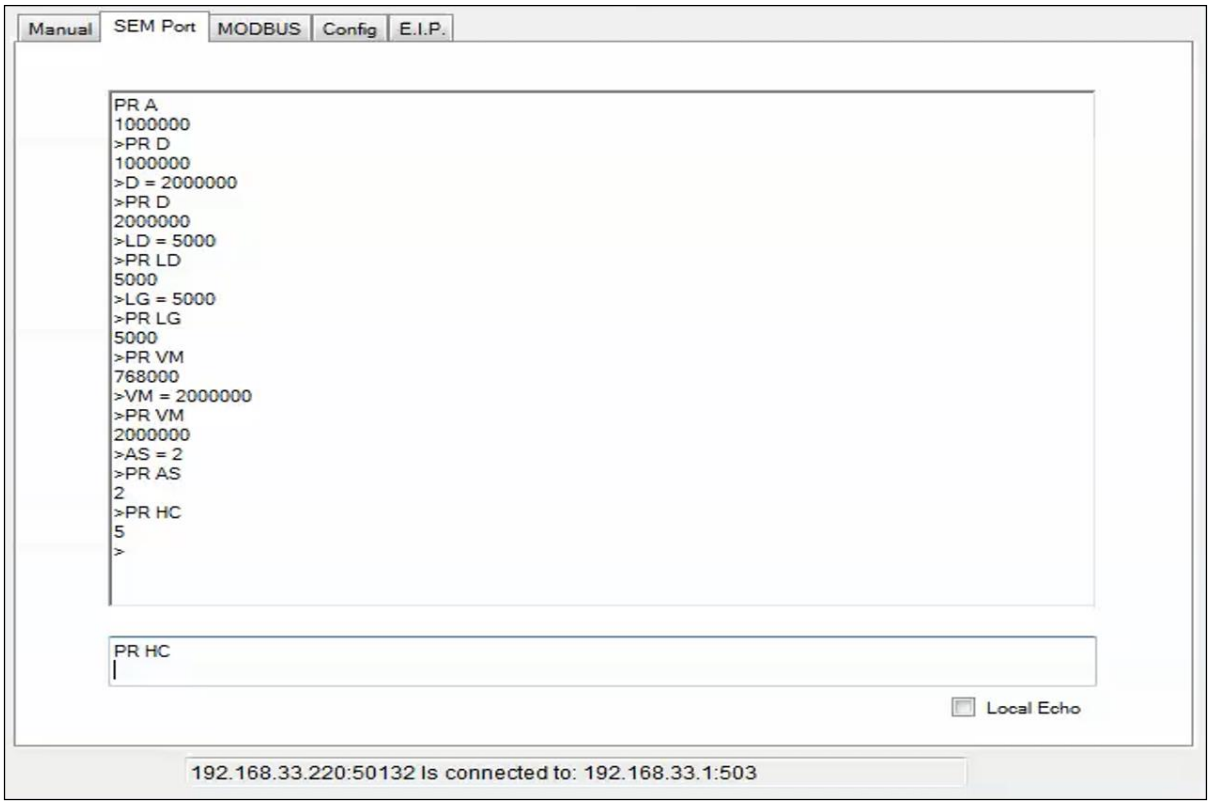


Figure PH018-23 – SEM Port Tab

17. Test the Lexium MDrive.

    To jog the Lexium MDrive for testing, type in “MR” + “Motor Counts”.

    (i.e. MR 500000 => Move Relative position 500000 motor counts)

    To jog clockwise 500,000 counts type in the following.

    MR = 500000 <Enter>

    To jog counter-clockwise 500,000 counts type in the following.

    MR = -500000 <Enter>

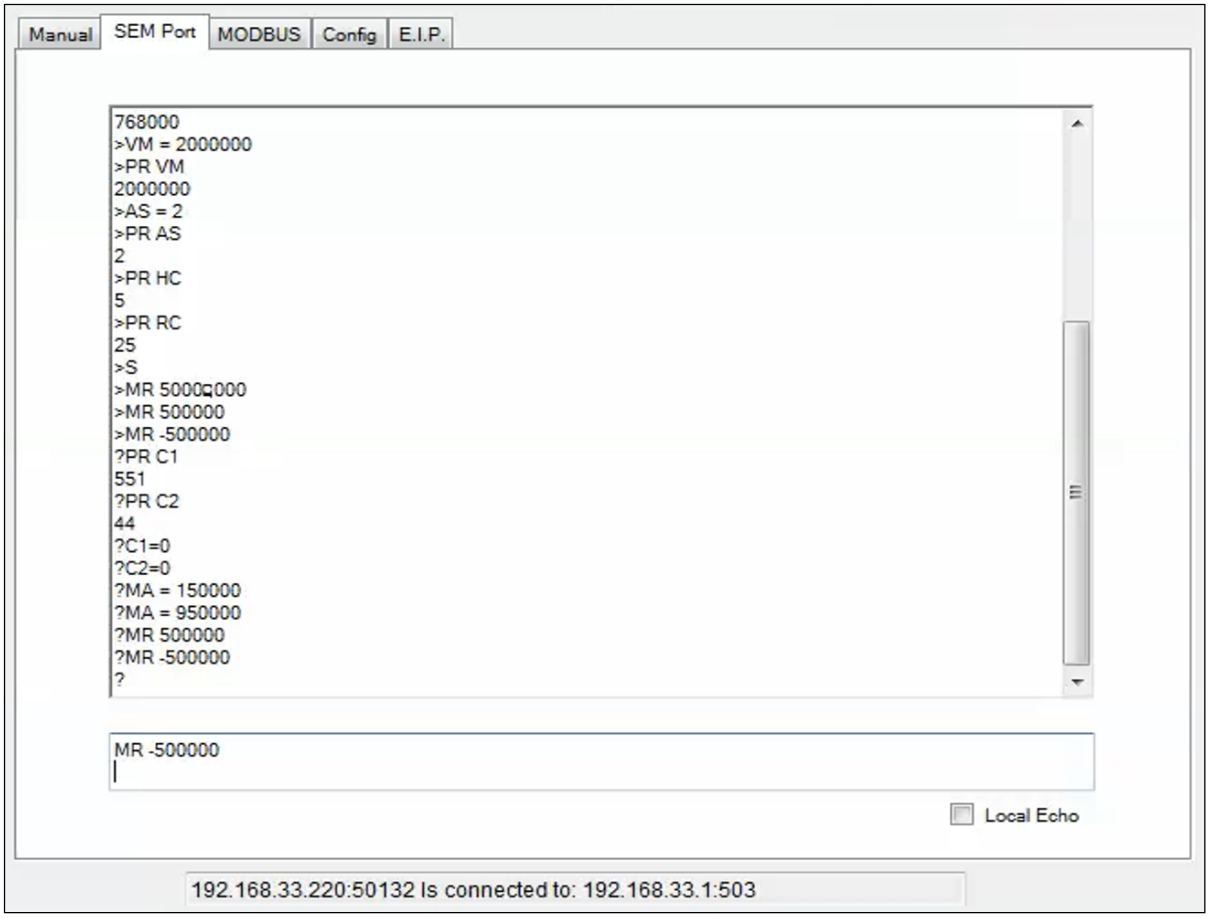


Figure PH018-24 – Testing

18. The Lexium MDrive is now ready for Ethernet control.

Troubleshooting

The following are the meanings of the indicator lights on the Motor and the Gateway.

Motor Indicator Lights

Status indicators

The Lexium MDrive has two LEDs for status indication.

- LED 1: Status of the power supply
- LED 2: Status indication. Indication functions programmed using the Lexium MDrive Pulse/direction Configuration Utility advanced mode. See Lexium MDrive Software Suite manual.

LED 1

Color	Status
Off	No Power
Green	Power supply in range
Red	Power supply out of range

LED 2

See the Pulse/direction Configuration Utility section of the Lexium MDrive Software Suite manual for available attention states.

Color	Status
Off	Not configured
Green	No attention state exists
Red	Preset attention state exists

Figure PH018-25 – Meaning of Motor Indicator LEDs

Location of LEDs on the Motor.

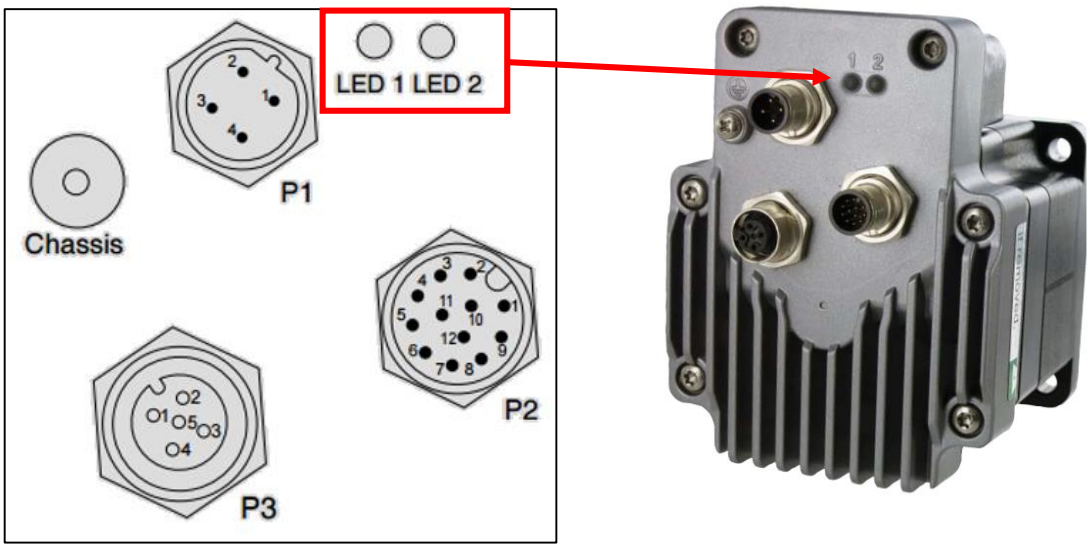


Figure PH018-26 – Motor LEDs

Gateway Indicator Lights

EtherNet/IP		
NS (Network Status - LED 1)		
Off		No power, no Ethernet connection
Red	Solid	Unrecoverable fault
	Flashing	Recoverable fault or IO connection timed out
Green	Solid	Normal runtime operation (I/O connection allocated)
	Flashing	Device is idle or not allocated to a client (PLC)
Red+Green	Alternating	Power-up self test in progress
MS (Module Status - LED 2)		
Off		No power
Red	Solid	Unrecoverable fault
	Flashing	Minor, recoverable fault
Green	Solid	I/O connection established
	Flashing	Standby, no I/O connection established
Red+Green	Alternating	Power-up self test in progress

Location of LEDs on the Gateway.

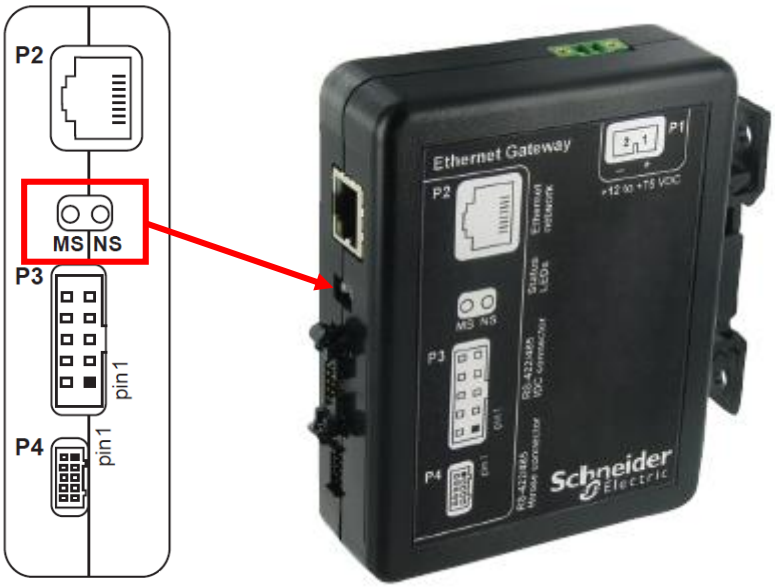


Figure PH018-27 – Gateway LEDs

Revision Record

Revision Level	Date	By	Description
Rev 00	09/13/16	Devin Riley & Arlene Mason	• Initial Release