



MICRO LYNX™ 4/7

QUICK REFERENCE



Before You Begin



The MicroLYNX System components are sensitive to ElectroStatic Discharge (ESD). All handling should be done at an ESD protected workstation.



Hazardous Voltage Levels may be present if using an open frame power supply to power the MicroLYNX.



Ensure that the power supply output voltage does not exceed the maximum input voltage of the MicroLYNX used! (MicroLYNX-4: +48 VDC, MicroLYNX-7: +75 VDC).

Tools and Equipment Required

- 1] IMS Communications Cable (P/N MX-CC100-000) or equivalent.
- 2] Unregulated DC Power Supply:
MicroLYNX-4: +12 to +48 VDC, 2A Typ.
MicroLYNX-7: +24 to +75VDC, 3.5A Typ.
- 3] A Stepping Motor
- 4] Basic Tools: Wire cutters/strippers, Screwdriver.
- 5] Wire for power supply:
MicroLYNX-4: 18 AWG Shielded Twisted Pair.
MicroLYNX-7: 16 AWG Shielded Twisted Pair.
- 6] PC running Windows 95/98, NT 4.0 SP6, Windows 2000 SP3 or Windows XP with an unused Serial Port (COM 1 or 2).

Connecting the Power Supply

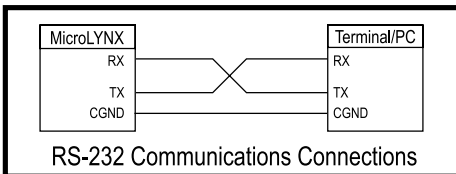
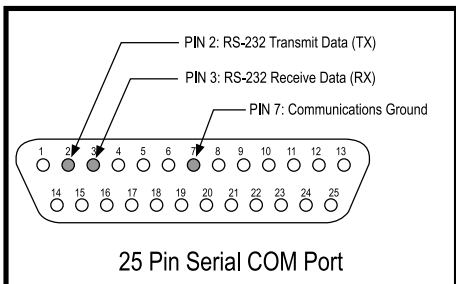
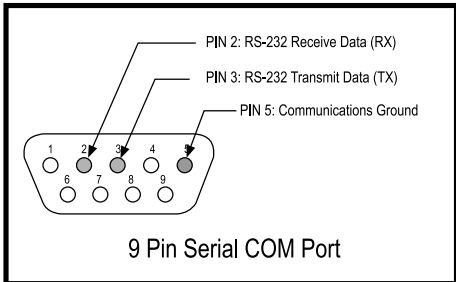
- 1] Using the wire recommended for your MicroLYNX power level, connect the DC output of your power supply to +V on your MicroLYNX.
- 2] Connect the power supply return (GND) to GND on the MicroLYNX.

Connecting the Stepping Motor

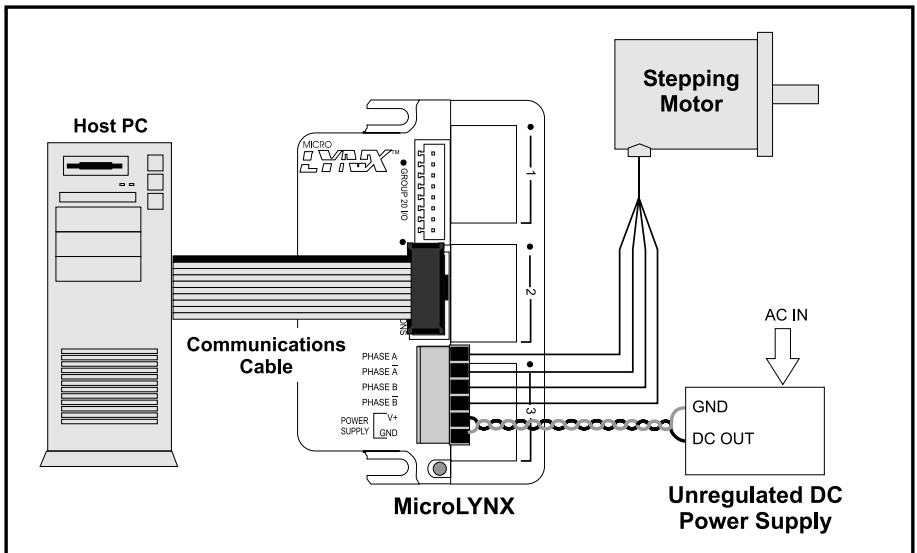
- 1] Connect the Stepping Motor Phases in accordance with the documentation included with your motor. Manually spin the motor shaft to ensure free movement. You may wish to attach a piece of tape to the motor shaft for visibility.

Connecting Communications

- 1] Connect the Host PC to the MicroLYNX RS-232 port using the IMS Communications Cable (P/N MX-CC100-000).
- 2] If required, use the table and figure below to create an equivalent communications cable. [Mating Connector for 10 Pin Header: Thomas & Betts P/N 636-1030, Ribbon Cable: Digikey P/N MC10G-300-NG].



RS-232 MicroLYNX Connection			
MicroLYNX		PC	
10 Pin Header	7 Pin Phoenix	25 Pin Serial Port	9 Pin Serial Port
Pin 3 Receive Data (RX)	Pin 1 Receive Data (RX)	Pin 2 Transmit Data (TX)	Pin 3 Transmit Data (TX)
Pin 2 Transmit Data (TX)	Pin 2 Transmit Data (TX)	Pin 3 Receive Data (RX)	Pin 2 Receive Data (RX)
Pin 5 CGND	Pin 6 CGND	Pin 7 CGND	Pin 5 CGND



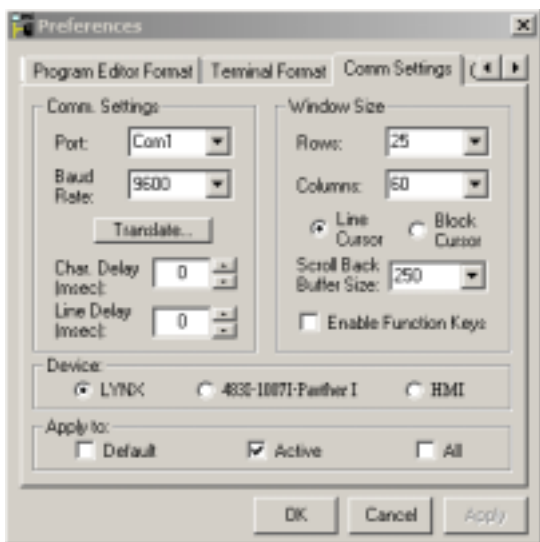
MicroLYNX Basic Wiring and Connections, Power, Motor & Communications

Installing IMS Terminal Software

- 1) Insert the IMS CD into the CD Drive on the Host PC.
- 2) The CD will autostart to the IMS CD Interface, Click the MicroLYNX icon to jump to the MicroLYNX Portion of the program. *Note: If CD fails to autostart, click Start>Run and enter [Drive Letter]:\IMS.exe*
- 3) Click the IMS Terminal Install button appropriate for your computer's operating system.
- 4) Follow the on-screen prompts to complete installation.

Establishing Communications

- 1) Open IMS Terminal from Start>Programs>IMS Terminal.
- 2) Select Edit>Preferences from the menu, on the dialog that opens select the tab labeled "Comm Settings". The dialog will appear as shown in figure below.
- 3) Select the COM port you are using on your PC. All other settings should be left as is.
- 4) Click OK.



IMS Terminal Communications Setup Dialog

APPLY POWER TO THE MICROLYNX!

- 5) Upon power up the MicroLYNX sign-on message should appear in the Terminal Window (right-hand window of the IMS Terminal screen). *Note: If sign-on message does not appear, in the bottom lower right of the program screen is the Connected/Disconnected status indicator. If this indicator reads "Disconnected" double-click "Disconnected" to connect. Hit CTRL+C (See Step 6). If not, verify power to the MicroLYNX. If needed, consult the product manual on the IMS CD or at www.imsbome.com.*
- 6) CTRL+C will also reset the MicroLYNX and cause the sign-on message to appear.

Testing the MicroLYNX Setup

- 1) Click anywhere within the Terminal window to activate the Terminal window.
- 2) The print instruction is used to report the values of variables and flags. Type the following at the prompt (>):
PRINT MUNIT <enter>
The MicroLYNX should return: 1.000 to the screen
- 3) The MicroLYNX is not case sensitive. You may type in upper or lower case.

- 4) Set the Motor Units to 51200 by typing at the prompt (>):
MUNIT = 51200 <enter>
- 5) To confirm that it has changed to the new value type:
PRINT MUNIT <enter>
The MicroLYNX should return: 51200.000
- 6) To move the motor one revolution type:
MOVR 1 <enter>
The motor should move one revolution.
Try: MOVR -1 <enter>
The motor should move one revolution in the opposite direction.
- 7) Click anywhere in the edit window to activate it.
- 8) Enter the following sample program. It will move the motor a couple of times and report its position each time it stops. It is not necessary to type the comments shown in the shaded area.

```
PGM 1
LBL TstPgm
POS = 0
MUNIT = 51200
MSEL = 256
VM = 1
ACCL = 50
DECL = 50
MOVR 3
HOLD 2
DELAY 250
PRINT "position = ", POS
MOVA 0
HOLD 2
PRINT "position = ", POS
END
PGM
```

```
'Enter program mode at line #1
'Label the program TstPgm
'Set present position to zero
'Set Motor Units to 51,200 Steps/User Unit
'Motor resolution = 256 uSteps/Full Step
'Set Velocity Max. to 1 rev/sec.
'Set Acceleration to 50 revs/sec
'Set Deceleration to 50 revs/sec
'Move Relative 3 Revs from current pos.
'Hold prog. exec. until motion complete
'Delay 1/4 second
'Print the present position
'Move absolute to the zero position
'Hold prog. exec. until motion complete
'Print the present position
'End the program
'Exit the program mode
```

- 9) Click the Terminal window to activate it.
- 10) Click the "down arrow" on the menu bar to download the program to the MicroLYNX.
- 11) The "LYNX Download dialog box" should appear.
- 12) In the "Source Type" section click the "Edit Window" radio button then click the "Download" button.
- 13) A message box should appear indicating that the program is being downloaded. The program should appear line by line in the terminal window as it is being transmitted to the MicroLYNX.
- 14) When the transmission is complete, the "downloading" message box should disappear and the prompt (>) and the blinking cursor should reappear.
- 15) Type TstPgm <enter> to run the program.
- 16) The program should move the motor and print the following data to the terminal window each time the motor stops:
position = 0.000
position = 3.000
position = 0.000

Product Manuals

Congratulations! You have successfully set up the MicroLYNX to perform a simple application! The next step is to go to the MicroLYNX QuickGuide to delve a little deeper into the features of the MicroLYNX such as the functions of the I/O and more programming examples.

More detailed software information is located in the LYNX Family Reference Manual on the IMS CD in PDF format. To access this manual simply go to the same screen on the CD interface from which you installed the IMS Terminal software or you may download it from the IMS web site at <http://www.imsbome.com>. If you desire, a paper copy of this manual may be obtained at nominal cost by contacting Customer Service at (860) 295-6102.