MicroLYNX 4/7 Installation Guide

The primary function of this guide is to acquaint the user with the specifications, basic wiring and configuration of the MicroLYNX-4 and MicroLYNX-7 Motion Control System. The full product manual is available in Acrobat PDF format on the IMS Product CD. It also may be downloaded from the IMS web site at www.imshome.com.

Notes And Warnings

Please observe the following when handling, connecting and using your MicroLYNX. Failure to observe these points may result in damage to the device. All warranty and disclaimer information is located in the full product manual and should be referenced for more information.

**WARNING!**
The MicroLYNX components are sensitive to Electrostatic Discharge (ESD). All handling should be done in an ESD protected workstation.

**WARNING!**
Hazardous voltage levels may be present if using an open frame power supply to power the MicroLYNX.

**WARNING!**
Ensure that the power supply output voltage does not exceed the maximum input voltage of the MicroLYNX (+48 VDC for the MicroLYNX-4 / +75 VDC for the MicroLYNX-7)

Do not connect or disconnect motor or power leads with the AC power applied. Disconnect the AC power side to power down the DC power supply.

For battery operated systems, conditioning measures should be taken to prevent device damage caused by inrush current draw, transient arcs and high voltage spikes.

Thermal Specifications

Ambient Operating Temperature: 0° to +50°C
Storage Temperature: -20° to +70°C
Humidity: 0 to 90% (non condensing)

* Can be duty cycle dependent.

Electrical Specifications

Power Supply Requirements

**Voltage**
- 4 Version (P/N MX-CS100-401) ... +12 to +48 VDC
- 7 Version (P/N MX-CS100-701) ... +24 to +75 VDC

**Current**
- 4 Version (P/N MX-CS100-401) ... 2A typical, 4A peak
- 7 Version (P/N MX-CS100-701) ... 3A typical, 6A peak

*Actual requirements depend on application and programmable current setting.

Mechanical Specifications

Dimensions in Inches (mm)

General Purpose I/O

Number of I/O: 6
Input Voltage: +5 to +48 VDC
Output Current Sink: 215 kHz to 21.5 kHz (Programmable)
Pullups: 7.5 kOhm individually switchable
Pull-up Voltage: +5 VDC
Protection: Over temp, short circuit, inductive clamp

Communication Pin Table

<table>
<thead>
<tr>
<th>MicroLYNX</th>
<th>PC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pin 5 Side Port</td>
<td>Pin 5 Ground</td>
</tr>
<tr>
<td>Pin 1 Side Port</td>
<td>Pin 6 Ground</td>
</tr>
<tr>
<td>Pin 2 Side Port</td>
<td>Pin 7 Ground</td>
</tr>
<tr>
<td>Pin 3 Side Port</td>
<td>Pin 8 Ground</td>
</tr>
</tbody>
</table>

Mounting the MicroLYNX to a Panel

The MicroLYNX can be mounted to a panel by using standard #6 hardware. As there is a built-in cooling fan, no heat sinking is necessary. When mounting the MicroLYNX in an enclosure, ensure that adequate space is available for air flow on the fan side of the MicroLYNX case.

Communication Specifications

**Asynchronous**

<table>
<thead>
<tr>
<th>Interface Type</th>
<th>COMM 1</th>
<th>COMM 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>RS-232</td>
<td>+5 to -15 VDC</td>
<td>+3 to +15 VDC</td>
</tr>
<tr>
<td>RS-485</td>
<td>+5 to -15 VDC</td>
<td>+3 to +15 VDC</td>
</tr>
</tbody>
</table>

**Parity**

None

**Handshake**

None

**Balanced Interface**

None

**Error Checking**

16 bit CRC (binary mode)

**Communication Modes**

ASCII text or binary

Isolated Ground: Common to COMM 1 and COMM 2

Typical MicroLYNX Connections

The example shown below is a MicroLYNX-4 with an IMS IP404 Power Supply and RS-232 Communication. Other configurations are illustrated in the full Product Manual which can be located on the IMS Product CD or at www.imshome.com.
Tools and Equipment Required

Establishing Communications

Installing IMS Terminal Software

Getting Started

Connecting the Power Supply

Connecting the Stepping Motor

Connecting Communications

Installing IMS Terminal Software

Establishing Communications

Installing a MicroLYNX Expansion Module

1. Remove the two retaining screws (A) from the cover.
2. Remove the blank panel (1, 2, or 3) from the appropriate slot.
3. Carefully press the Expansion Module (B) into place by plugging the 28 pin connector into the desired receptacle (C, D, or E) and snipping it into place under the retaining clips (F).
4. Reinstall the MicroLYNX cover.
5. Affix the labels supplied with the Expansion Module as shown.

NOTE: Some Expansion Modules may only be placed in certain slots. Please refer to Section 11 of the full Product Manual for more details.

To Install the Expansion Module:

The only tool required is a phillips head screwdriver.
To Install the Expansion Module:

1) Open IMS Terminal from Start>Programs>IMS Terminal.
2) Insert the IMS CD into the CD Drive on the Host PC.
3) Follow the on-screen prompts to complete installation.
4) Using the wire recommended for your MicroLYNX power
5) IMS Communications Cable (P/N MX-CC100-000) or
6) Unregulated DC Power Supply:

Connecting Power Supply:

MicroLYNX-7: +24 to +75VDC, 3.5A Typ.
MicroLYNX-4: +12 to +48 VDC, 2A Typ.

NOTE: The torque specification for the retaining screws “A” is 4 to 5 lbf-in (0.45 to 0.56 Nm).

Typical Expansion Module Installation - Isolated Digital I/O Shown

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 NØRØT <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 SORT <enter>
The MicroLYNX should return: 51200.000
6) To move the motor one revolution type:
MOVR 1 <enter>
The motor should move one revolution.
Type:
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.

The motor should move one revolution in the opposite direction.

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:

For More Information:
See the complete LYNX/MicroLYNX Family Product Manual on the IMS Product CD or at www.imshome.com.