



INSTRUCTION MANUAL

NXC-ME260/64

NETLINX MASTER ETHERNET CARD



## IMPORTANT SAFETY INSTRUCTIONS

1. READ these instructions.
2. KEEP these instructions.
3. HEED all warnings.
4. FOLLOW all instructions.
5. DO NOT use this apparatus near water.
6. CLEAN ONLY with dry cloth.
7. DO NOT block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. DO NOT install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. DO NOT defeat the safety purpose of the polarized or grounding type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wider blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. PROTECT the power cord from being walked on or pinched, particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. ONLY USE attachments/accessories specified by the manufacturer.



12. USE ONLY with a cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
13. UNPLUG this apparatus during lightning storms or when unused for long periods of time.
14. REFER all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
15. DO NOT expose this apparatus to dripping or splashing and ensure that no objects filled with liquids, such as vases, are placed on the apparatus.
16. To completely disconnect this apparatus from the AC Mains, disconnect the power supply cord plug from the AC receptacle.
17. Where the mains plug or an appliance coupler is used as the disconnect device, the disconnect device shall remain readily operable.
18. DO NOT overload wall outlets or extension cords beyond their rated capacity as this can cause electric shock or fire.



The exclamation point, within an equilateral triangle, is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.



The lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electrical shock to persons.



ESD Warning: The icon to the left indicates text regarding potential danger associated with the discharge of static electricity from an outside source (such as human hands) into an integrated circuit, often resulting in damage to the circuit.

- WARNING:** To reduce the risk of fire or electrical shock, do not expose this apparatus to rain or moisture.
- WARNING:** No naked flame sources - such as lighted candles - should be placed on the product.
- WARNING:** Equipment shall be connected to a MAINS socket outlet with a protective earthing connection.
- WARNING:** To reduce the risk of electric shock, grounding of the center pin of this plug must be maintained.

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# NXC-ME260/64

## Overview

The NetLinx NXC-ME260/64 Master Ethernet Card (FG2010-64) supplies optimum control system performance. With the ability to respond 50 times faster than conventional control masters, the NXC-ME260/64 is propelled by the high-speed 257 MIPS ColdFire processor. The standard 2GB Compact Flash memory is expandable to 4GB and Ethernet networking is built on-board.

The NXC-ME260/64 also features enhanced Username and Password authentication, HTTPS and SSL certificate interaction, ICS communication and encryption, and use of a pre-installed AMX SSL certificate. The NetLinx NXC-ME260/64 Master Ethernet Card (FIG. 1) and Module is the controller for NetLinx Control Systems.

The NXC-ME260/64 can be installed in the NetLinx CardFrame (NXF), the NetLinx Integrated Controller (NXI), or in a NetLinx Module (NXS-MHS) enclosure.

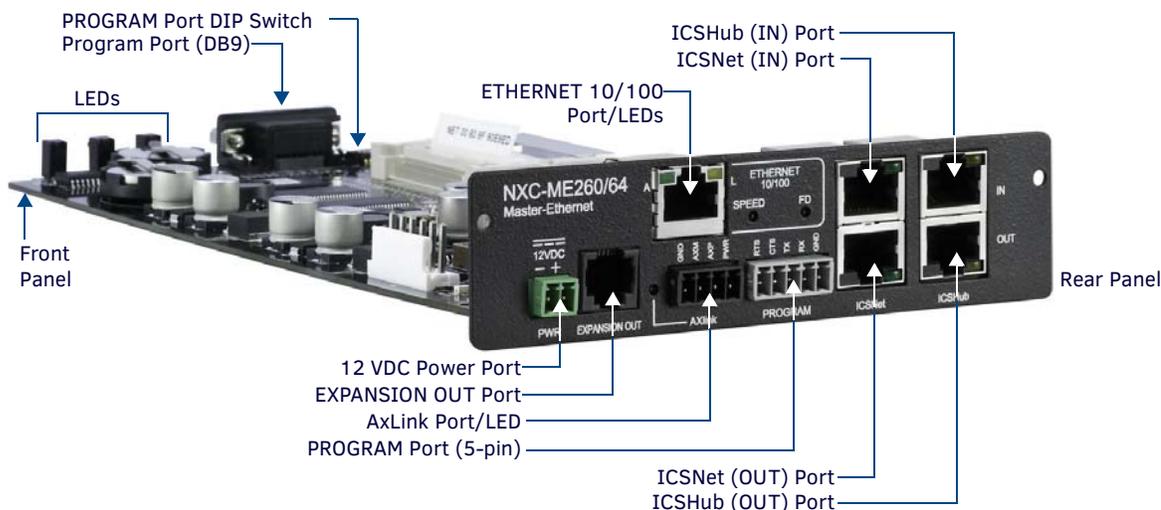


FIG. 1 NXC-ME260/64

**NOTE:** When working with the NXC-ME260/64, verify you are using the latest version of NetLinx Studio (available for download from [www.amx.com](http://www.amx.com)).

## Specifications

NXC-ME260/64 Specifications	
Dimensions (HWD):	<ul style="list-style-type: none"> <li>1 5/16" x 5" x 8 13/16" (3.4 cm x 12.7 cm x 22.4 cm)</li> <li>RU: 1</li> </ul>
Power Requirement:	<ul style="list-style-type: none"> <li>750 mA @ 12 VDC</li> <li>Power requirements are usage dependant</li> </ul>
Memory:	<ul style="list-style-type: none"> <li>Volatile: 64 MB (SDRAM)</li> <li>Non-volatile: 1 MB</li> <li>Refer to the NXC-ME260/64 Instruction Manual for more information.</li> </ul>
Compact Flash:	2GB or greater (upgradeable to 4GB - see <i>Other AMX Equipment</i> ). <i>Note: AMX may increase Flash size at any time in response to market availability.</i>
Microprocessor:	Coldfire 5407 (32-bit)
Weight:	<ul style="list-style-type: none"> <li>NXC-ME260/64 only: 0.55 lbs (0.25 kg)</li> <li>NXC-ME260/64 with NXS-NMS module: 1.95 lbs (0.88 kg)</li> </ul>
Enclosure:	Metal with black matte finish
Certifications:	FCC Part 15 Class B and CE
Front Panel Components	
Program Port:	<p>RS-232 DB9 connector (male) can be connected to a DB9 port on a PC. This connector can be used with serial and NetLinx programming commands, as well as other DB9 capable devices, to both upload/download information from the NetLinx Studio program.</p> <p>Set the port's communication speed with the Baud Rate DIP switch.</p> <p>There are Program ports located on the front and rear of the Master Card for easy access. Because these ports share the same circuitry, you should never use both at the same time; doing so will result in communication and/or programming errors. See the <i>Program Port Connections and Wiring</i> section on page 9 section for details.</p>

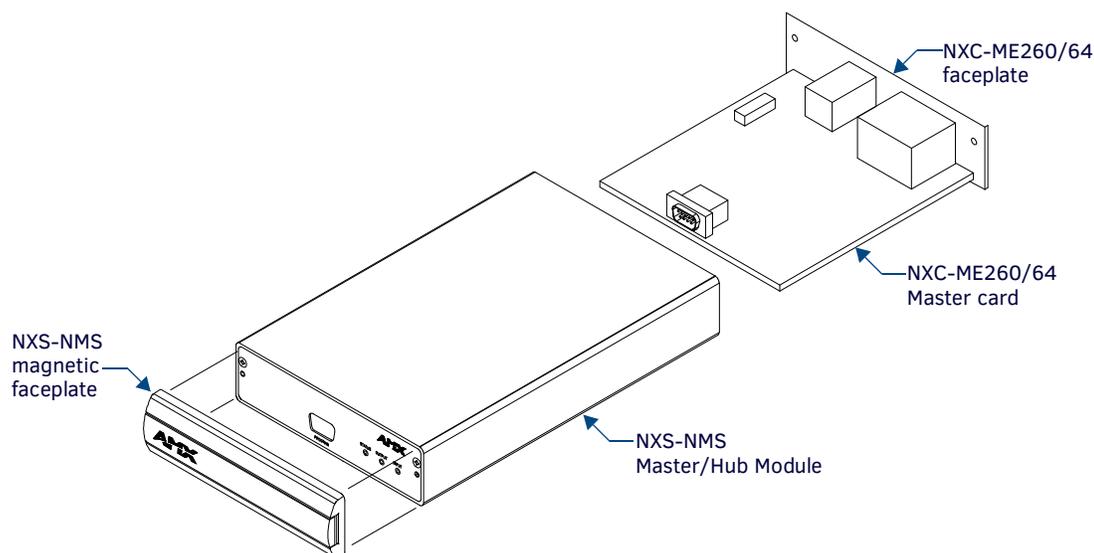
NXC-ME260/64 Specifications (Cont.)	
<b>Front Panel Components (Cont.)</b>	
LEDs	<ul style="list-style-type: none"> <li>• Status: Green LED blinks to indicate that the system is programmed and communicating properly.</li> <li>• Output: Red LED blinks when the Master transmits data, sets channels On and Off, sends data strings, etc.</li> <li>• Input: Yellow LED blinks when the Master receives data from button pushes, strings, commands, channel levels, etc.</li> </ul> <p>See the <i>Modes and Front Panel LED Blink Patterns</i> section on page 10 for details.</p>
Program Port DIP Switch:	Internal 8-position DIP switch on the front of the card for setting the baud rate for the Program port. See the <i>Setting the Configuration DIP Switch (for the Program Port)</i> section on page 8 for details.
<b>Rear Panel Components:</b>	
12 VDC Power Port:	2-pin 3.5 mm mini-Phoenix (male) connector. See the <i>Wiring a Power Connection</i> section on page 11 for details.
EXPANSION OUT Port:	RJ11 connector connects to an AXB-SPE Slave Port Expander. See the <i>SPE Port Connection/Wiring</i> section on page 14 for details.
Ethernet Port:	<p>RJ-45 port for 10/100 Mbps communication. This port automatically negotiates the connection speed (10 Mbps or 100 Mbps) and whether to use half duplex or full duplex mode.</p> <p>The LEDs show communication activity, connection status, speeds, and mode information (see <i>LAN/RJ-45 Port: Connections and Wiring</i> section on page 13)</p>
AxLink Port:	<p>4-pin 3.5 mm mini-Phoenix (male) connector that provides data and power to external control devices.</p> <ul style="list-style-type: none"> <li>• Power rating = 6 A max; actual load depends on connected power supply.</li> <li>• AxLink LED: Green LED indicates the state of the AxLink port.</li> </ul> <p>See the <i>AxLink Port and LED</i> section on page 10 for details.</p>
Program Port:	<p>5-pin (male) gray connector for system programming and diagnostics.</p> <p>There is a Program port located on the front and rear of the Card for easy access. Because these ports share the same circuitry, you should never use both ports at the same time. Doing so will result in communication and/or programming errors.</p> <p>See the <i>Program Port Connections and Wiring</i> section on page 9 for details.</p>
ICSNet:	<p>Two RJ-45 connectors for ICSNet interface.</p> <p>ICSNet LEDs - Indicate activity on that port. See the <i>ICSNet Port: Connections and Wiring</i> section on page 12 for details.</p>
ICSHub In/Out:	<p>RJ-45 connectors provide data to external Hubs connected to the Master.</p> <p>ICSHub IN/OUT LEDs - Indicate activity on that port. See the <i>ICSHub Port: Connections and Wiring</i> section on page 12 for details.</p>
Included Accessories:	<ul style="list-style-type: none"> <li>• Connector Bag containing: <ul style="list-style-type: none"> <li>2-pin 3.5 mm mini-Phoenix connector (female) (41-5025)</li> <li>4-pin 3.5 mm mini-Phoenix connector (female) (41-5047)</li> <li>5-pin 3.5 mm mini-Phoenix connector (female) (41-5053)</li> <li>Back panel (51-2010-61)</li> </ul> </li> <li>• Front plate with screws and washers</li> </ul>
Other AMX Equipment:	<ul style="list-style-type: none"> <li>• AC-RK Accessory Rack Kit (FG515)</li> <li>• NXF CardFrame (FG2001)</li> <li>• NXI Integrated Controller (FG2101)</li> <li>• NXS-MHS Module (FG2009)</li> <li>• Upgrade Compact Flash (factory programmed with firmware): NXA-CFM4G, 4 GB Flash Upgrade (FG2116-06)</li> </ul>

# Installation

## Mounting the NXC-ME260/64 into an NXS-NMS Module

Before installing the NXC-ME260/64 card into the NXS-NMS Module:

- Confirm the contents of the shipment box to verify that you have all specified parts. Refer to the *Specifications* section on page 4 for more information about included and other AMX equipment.
  - Carefully remove the NXS-NMS Master/Hub Module from the shipping box.
  - Pull-away the magnetic faceplate from the front of the NXS-NMS. This exposes the front panel LEDs and Program port opening (FIG. 2).
  - Carefully remove the NXC-ME260/64 from its anti-static bag and place it aside.
1. Grasp the NXC-ME260/64 by the faceplate and direct the Program port (on the front of the card) into the opening on the rear of the NXS-NMS (FIG. 2).
  2. Slide the Master card along the lowest pair of internal guide slots within the NXS-NMS.



**FIG. 2** Component locations on both NXC-ME260/64 and NXS-NMS

3. Secure the NXC-ME260/64 faceplate to the NXS-NMS by using a Phillips-head screwdriver to turn the two faceplate securing screws in a clockwise direction.
4. Connect the 12 VDC power supply to the 2-pin PWR connector and apply power.

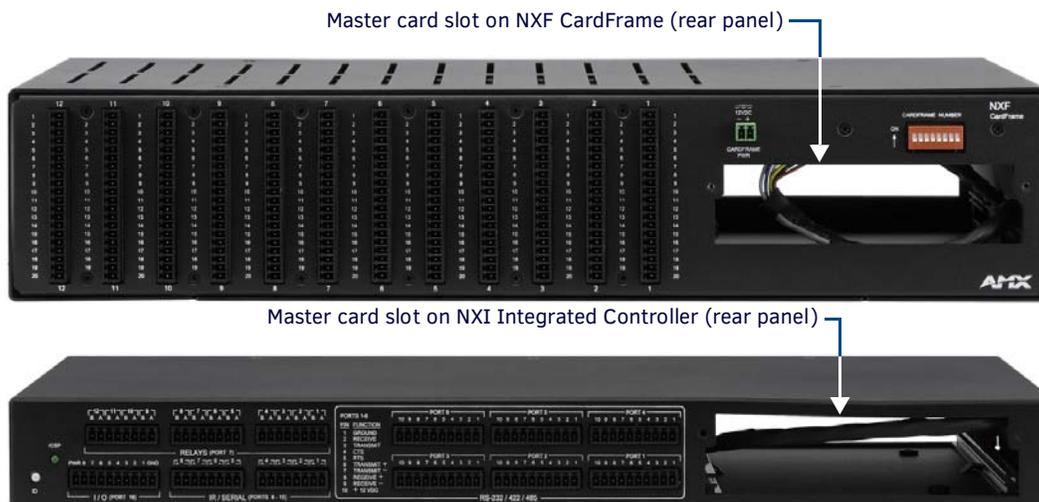
## Mounting the NXS-NMS Into an Equipment Rack

To install the Master/Hub Module into an optional AC-RK equipment rack:

1. Remove the front panel from the Module to expose the mounting holes.
2. Mount the module on the AC-RK bracket.
3. Place the AC-RK bracket (with the module) in the equipment rack and secure the bracket to the rack.
4. Replace the front panel to the Module, and reattach the plastic faceplate (if necessary).

## Mounting the NXC-ME260/64 in an NXF CardFrame or NXI

The NXC-ME260/64 can be installed in a NetLinx CardFrame (NXF) or NetLinx Integrated Controller (NXI). In both cases, the card mounts in a horizontal position, through the Master card slot on the rear panel of the enclosure. To install a Master card into either an NXF CardFrame or NXI Integrated Controller (FIG. 3):



**FIG. 3** Master card slots

1. Discharge the static electricity from your body by touching a grounded object.
2. Unplug all the connectors from the Controller or Module.
3. Unscrew the two screws that hold the front faceplate plate on the Master card and remove the front plate.
4. Align the edges of the card with the guide slots inside the Master card slot on the NXF or NXI.
5. Slide the card about halfway into the slot.
6. Inside the Master card slot on the NXF or NXI, find the 6-pin control cable connector.
7. Plug the connector from the NXF or NXI into the 6-pin terminal on the Master card. This connector is keyed to ensure correct orientation.
8. Gently slide the card all the way in until you feel the rear edge of the card lightly snap into place.
9. Re-apply power and other connections as necessary.

# Connections and Wiring

## Setting the Configuration DIP Switch (for the Program Port)

Prior to installing the Controller, use the Configuration DIP switch to set the baud rate used by the Program port for communication. The Configuration DIP switch is located on the front of the Integrated Controllers.

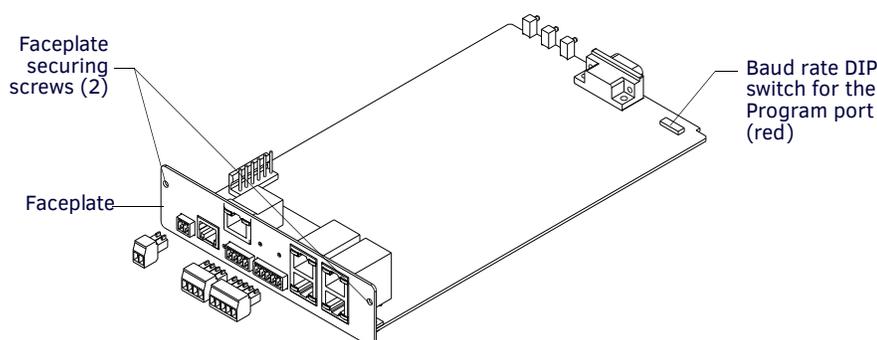
**NOTE:** While the NXC-ME260/64 is capable of receiving 8 and 9 bit characters, it cannot receive 7 bit, 1 stop bit data from a serial device (ex: 9600,N,7,1).

It is recommended that the baud rate DIP switch be set prior to any installation of the NXC-ME260/64 card.

1. Locate the red baud rate DIP switch (FIG. 4).
2. Set DIP switch positions according to the information listed in the *Baud Rate Settings on the Configuration DIP Switch table* and *PRD Mode Settings table*.

If the card has already been installed:

1. Disconnect the power supply from the 2-pin PWR (green) connector on the Master Card.
2. Unsecure the NXC-ME260/64 by unscrewing the two faceplate securing screws (on both sides of the faceplate) using a Phillips-head screwdriver (FIG. 4).
3. Carefully slide-out the card and locate the red baud rate DIP switch (FIG. 4).
4. Set the internal DIP switch positions according to the information listed in the *Baud Rate Settings on the Configuration DIP Switch* and *PRD Mode Settings* tables (page 8).
5. Place the Master card back into its' housing and secure the two faceplate securing screws.
6. Reconnect the 12 VDC power supply to the 2-pin PWR connector and apply power.



**FIG. 4** Component locations on the NXC-ME260/64

### Baud Rate Settings

Before programming the on-board Master, make sure the baud rate you set matches the communication parameters set on both your PC's COM port and those set through your NetLinx Studio. By default, the baud rate is set to **38,400** (bps).

Baud Rate Settings on the Configuration DIP Switch					
Baud Rate	Position 5	Position 6	Position 7	Position 8	
9600 bps	OFF	ON	OFF	ON	
38,400 bps (default)	OFF	ON	ON	ON	
57,600 bps	ON	OFF	OFF	OFF	
115,200 bps	ON	ON	ON	ON	

**NOTE:** Note the orientation of the Configuration DIP Switch and the ON position label. DIP switches 2,3, and 4 must remain in the OFF position at all times.

### Program Run Disable (PRD) Mode

You can also use the Program port's Configuration DIP switch to set the on-board Master to Program Run Disable (**PRD**) mode according to the settings listed in the table below.

PRD Mode Settings		
PRD Mode	Position 1	
Normal mode (default)	OFF	
PRD Mode	ON	

The **PRD** mode prevents the NetLinx program stored in the on-board Master from running when you power up the Integrated Controller.

This mode should only be used when you suspect the resident NetLinX program is causing inadvertent communication and/or control problems. If necessary, place the on-board Master in PRD mode and use the NetLinX Studio v 2.4 program to resolve the communication and/or control problems with the resident NetLinX program. Then download the new NetLinX program and try again.

**NOTE:** Think of the PRD Mode (On) equating to a PC's SAFE Mode setting. This mode allows a user to continue powering a unit, update the firmware, and download a new program while circumventing any problems with a currently downloaded program. Power must be cycled to the unit after activating/deactivating this mode on the Program Port DIP switch #1.

### Working With the Configuration DIP Switch

1. Disconnect the power supply from the 2-pin PWR (green) connector on the rear of the NetLinX Integrated Controller.
2. Set DIP switch positions according to the information listed in the *Baud Rate Settings on the Configuration DIP Switch* and *PRD Mode Settings* tables.
3. Reconnect the 12 VDC-compliant power supply to the 2-pin 3.5 mm mini-Phoenix PWR connector.

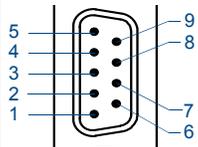
## Program Port Connections and Wiring

There are Program ports located on the front and rear of the NXC-ME260/64 for easy access. Because these ports share the same circuitry, you should never use both at the same time; doing so will result in communication and/or programming errors.

### Front Panel DB9 Program Port

The RS-232 DB9 connector (male) can be connected to a DB9 port on a PC. This connector can be used with serial and NetLinX programming commands, as well as other DB9 capable devices, to both upload/download information from the NetLinX Studio program. Refer to the *NetLinX Studio* instruction manual for programming instructions. The following table shows the rear panel Program Port connector (male), pinouts, and signals.

Program Port, Pinouts, and Signals	
Pin	Signal
2	RX
3	TX
5	GND
7	RTS
8	CTS

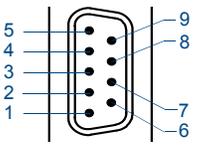


**NOTE:** When wiring the 422/485 connections, do NOT use pre-made 9-wire cable or connect the wire in the cable to any connection that will not be used by the DB9 serial port. Only use wiring that connects the needed pins.

### Rear Panel 5-Pin Program Port

The table below lists the pinouts and signals for the gray rear panel 5-pin 3.5 mm mini-Phoenix Program port connector.

Rear 5-Pin Program Port Pinouts and Signals	
Pin	Signal
1	GND
2	RX
3	TX
4	CTS
5	RTS



## Modes and Front Panel LED Blink Patterns

The following table lists the modes and blink patterns for the front panel LEDs associated with each mode. These patterns are not evident until after the unit is powered.

Modes and LED Blink Patterns				
Mode	Description	LEDs and Blink Patterns		
		STATUS (green)	OUTPUT (red)	INPUT (yellow)
OS Start	Starting the operating system (OS).	On	On	On
Boot	On-board Master is booting.	On	Off	On
Contacting DHCP server	On-board Master is contacting a DHCP server for IP configuration information.	On	Off	Fast Blink
Unknown DHCP server	On-board Master could not find the DHCP server.	Fast Blink	Off	Off
Downloading Boot firmware	Downloading Boot firmware to the Master's on-board flash memory. <i>Note: Do not cycle power during this process!</i>	Fast Blink	Fast Blink	Fast Blink
No program running	There is no program loaded, or the program is disabled.	On	Normal	Normal
Normal	On-board Master is functioning normally.	1 blink per second	Indicates activity	Indicates activity

## AxLink Port and LED

The AxLink port and adjacent status LED on the front panel allows the NXC-ME260/64 to support AMX Legacy AxLink devices such as G3 touch panels (ex: CP4/A) and PosiTrack Pilot devices.

A green LED shows AxLink data activity. When the AxLink port is operating normally, blink patterns include:

- **Off** - No power, or the controller is not functioning properly
- **1 blink per second** - Normal operation.
- **3 blinks per second** - AxLink bus error. Check all AxLink bus connections.

The AxLink port can be used to supply power to downstream AxLink-compatible devices as long as both the power required is *LESS THAN* 2 Amps total and the external power supply feeding the ME260/64 has the necessary power capability.

## Wiring Guidelines

Use a 12 VDC-compliant power supply to provide power to the ME250/64 via the 2-pin 3.5 mm mini-Phoenix PWR connector on the rear panel. Use the power requirements information described in the product's Specifications table to determine the power draw. The incoming PWR and GND cable from the power supply must be connected to the corresponding locations within the PWR connector.

**CAUTION:** *This unit should only have one source of incoming power. Using more than one source of power to the Controller can result in damage to the internal components and a possible burn out. Apply power to the unit only after installation is complete.*

### Wiring Length Guidelines

Refer to the following table for the wiring length guidelines based on wire size (gauge):

Wiring Guidelines - ME-260/64 @ 750 mA	
Wire size	Maximum wiring length
18 AWG	144.51 feet (44.05 meters)
20 AWG	91.74 feet (27.96 meters)
22 AWG	59.17 feet (18.04 meters)
24 AWG	36.10 feet (11.00 meters)

### Preparing Captive Wires

You will need a wire stripper and flat-blade screwdriver to prepare and connect the captive wires.

**NOTE:** *Never pre-tin wires for compression-type connections.*

1. Strip 0.25 inch (6.35 mm) of insulation off all wires.
2. Insert each wire into the appropriate opening on the connector (according to the wiring diagrams and connector types described in this section).
3. Tighten the screws to secure the wire in the connector. Do not tighten the screws excessively doing so may strip the threads and damage the connector.

## Wiring a Power Connection

To use the 2-pin 3.5 mm mini-Phoenix connector with a 12 VDC-compliant power supply, the incoming PWR and GND cables from the external source must be connected to their corresponding locations on connector (FIG. 5).

1. Insert the PWR and GND wires on the terminal end of the 2-pin 3.5 mm connector. Match the wiring locations of the +/- on both the power supply and the terminal connector.
2. Tighten the clamp to secure the two wires. *Do not tighten the screws excessively; doing so may strip the threads and damage the connector.*
3. Verify the connection of the 2-pin 3.5 mm mini-Phoenix to the external 12 VDC-compliant power supply.



FIG. 5 2-pin mini-Phoenix connector wiring diagram (direct power)

## Using the 4-pin Mini-Phoenix Connector For Data and Power

Connect the 4-pin 3.5 mm mini-Phoenix (female) captive-wire connector to an external NetLink device as shown in FIG. 6.



FIG. 6 Mini-Phoenix connector wiring diagram (direct data and power)

## Using the 4-pin Mini-Phoenix Connector For Data With External Power

To use the 4-pin 3.5 mm mini-Phoenix (female) captive-wire connector for data communication and power transfer, the incoming PWR and GND cable from the 12 VDC-compliant power supply must be connected to the AxLink cable connector going to the Integrated Controller. FIG. 7 shows the wiring diagram. Always use a local power supply to power the Integrated Controller unit.

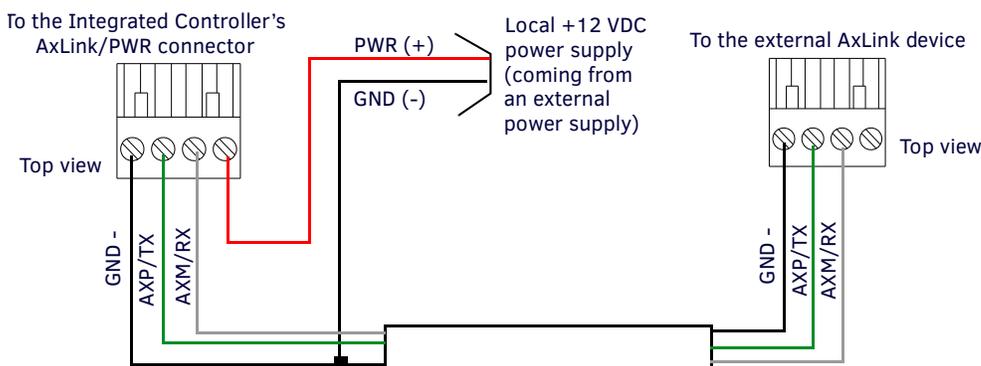


FIG. 7 4-pin mini-Phoenix connector wiring diagram (using external power source)

**NOTE:** When you connect an external power supply, do not connect the wire from the PWR terminal (coming from the external device) to the PWR terminal on the Phoenix connector attached to the Controller unit. Make sure to connect only the AXM, AXP, and GND wires to the Controller's Phoenix connector when using an external power supply.

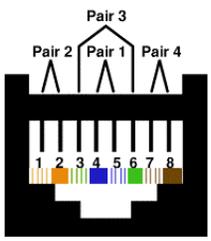
- Make sure to connect only the GND wire on the AxLink/PWR connector when using a separate 12 VDC power supply.
- Do not connect the PWR wire to the AxLink connector's PWR (+) opening.

## ICSNet Port: Connections and Wiring

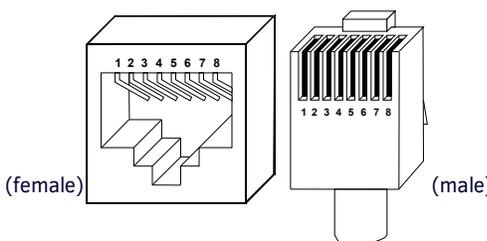
Each port provides up to 500 mA of current. The following tables show the signal and pinouts/pairing information:

ICSNet RJ-45 Signals		
Pin	Signal-Master	Signal-Device
1	TX +	RX +
2	TX -	RX -
3	N/A	N/A
4	GND	GND
5	N/A	N/A
6	N/A	N/A
7	RX +	TX +
8	RX -	TX -

RJ-45 Pinout Information (EIA/TIA 568 B)			
Pin	Wire Color	Polarity	Function
1	Orange/White	+	Transmit
2	Orange	-	Transmit
3	Green/White	-	Mic
4	Blue	-	Ground
5	White/Blue	+	12 VDC
6	Green	+	Mic
7	White/Brown	+	Receive
8	Brown	-	Receive



TIA 568B



(female) (male)

RJ-45 connector - pin configurations

**NOTE:** Unlike the ICSNet ports, the ICSHub connections require a specific polarity. The IN/OUT configuration, on the Hub ports, was implemented to use the same cables as ICSNet, but these ports need TX and RX crossed. You must connect an OUT to an IN, or an IN to an OUT port. This is done simply to keep the polarity straight. The Hub bus is still a bus. All Hub connections are bi-directional.

## ICSHub Port: Connections and Wiring

The two ICSHub RJ-45 connectors on the rear of the Master card provide data to other Hubs connected to a downstream system. Hubs allow you to connect multiple NetLinx Hubs together in a daisy-chain configuration. Connect the OUT port to the IN port on the second or downstream NetLinx Hub.

- Use CAT5 cables for all ICSHub connections.
- **Do not** connect the last hub in a daisy-chain configuration into the first Hub.

### ICSHub IN Port Pinouts and Signals

ICSHub IN Pinouts and Signals		
Pin	Signal	Color
1	TX -	orange-white
2	TX +	orange
3	-----	-----
4	-----	-----
5	-----	-----
6	-----	-----
7	RX -	brown-white
8	RX +	brown

## ICSHub OUT port

The following table describes the pinout and signal information for the ICSHub OUT port.

ICSHub OUT Pinouts and Signals		
Pin	Signal	Color
1	RX +	orange-white
2	RX -	orange
3	-----	-----
4	-----	-----
5	-----	-----
6	-----	-----
7	TX +	brown-white
8	TX -	brown

## LAN/RJ-45 Port: Connections and Wiring

The following table lists the pinouts, signals, and pairing for the LAN connector.

LAN RJ-45 Pinouts and Signals				
Pin	Signals	Connections	Pairing	Color
1	TX +	1 ----- 1	1 ----- 2	Orange-White
2	TX -	2 ----- 2		Orange
3	RX +	3 ----- 3	3 ----- 6	Green-White
4	no connection	4 ----- 4		Blue
5	no connection	5 ----- 5		Blue-White
6	RX -	6 ----- 6		Green
7	no connection	7 ----- 7		Brown-White
8	no connection	8 ----- 8		Brown

FIG. 8 diagrams the RJ-45 pinouts and signals for the LAN RJ-45 connector and cable.

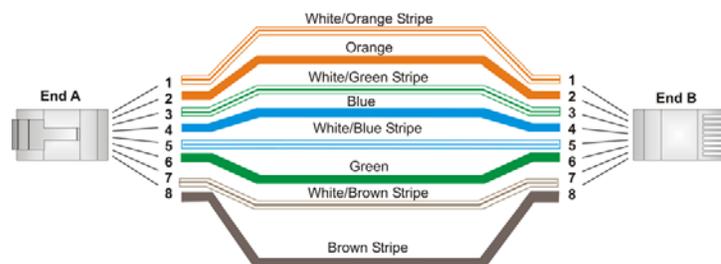
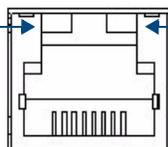


FIG. 8 RJ-45 wiring diagram

## LAN LEDs

L/A - Link/Activity LED lights (green) when the LAN cables are connected and terminated correctly.



SPD - Speed LED lights (yellow) when the connection speed is 100 Mbps and turns Off when speed is 10 Mbps.

FIG. 9 LAN LEDs

**NOTE:** From a Telnet or Terminal session, you can send the **SET ETHERNET MODE** command to assign the speed of your LAN connection. Sample command: **SET ETHERNET MODE AUTO**

The ME260/64 only allows you to set the LAN mode to AUTO negotiate the LAN connection speed. Using any of the other connection modes (10 Half/Full or 100 Half/Full) will result in an error.

## LAN Ports Used By the Integrated Controller

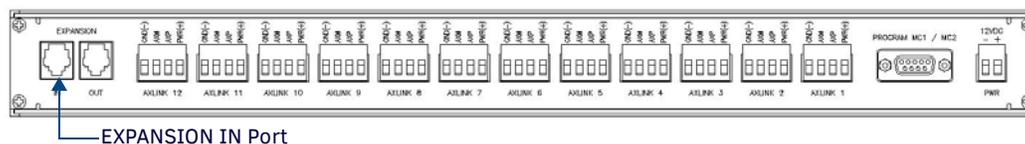
LAN Port Descriptions		
Port type	Description	Standard Port #
FTP	The on-board Master has a built-in FTP server.	21/20 (TCP)
SSH	The SSH port functions using the same interface as Telnet but over a secure shell where it uses SSL as a mechanism to configure and diagnose a NetLinX system. This port value is used for secure Telnet communication. <i>Note: SSH version 2 (only) is supported.</i>	22 (TCP)
Telnet	The NetLinX Telnet server provides a mechanism to configure and diagnose a NetLinX system. For maximum flexibility, the Master can be configured to utilize a different port than 23, or disable Telnet completely from either Telnet or the Program Port located on the rear of the Master itself. Once disabled, the only way to enable Telnet again is from the Master's Program port.	23 (TCP)
HTTP	The Master has a built-in web server that complies with the HTTP 1.0 specification and supports all of the required features of HTTP v1.1. This port is used for unsecure HTTP Internet communication between the web browser's UI and the target Master.	80 (TCP)
HTTPS/SSL	This port is used by a web browser to securely communicate between the web server UI and the target Master. This port is also used to simultaneously encrypt this data using the SSL certificate information on the Master as a key.	443 (TCP)
ICSP	Peer-to-peer protocol used for both Master-to-Master and Master-to-device communications. For maximum flexibility, the Master can be configured to utilize a different port than 1319, or disable ICSP over LAN completely from either Telnet or the Program Port located on the rear of the Master itself. This type of communication is used by the various AMX product for communication amongst themselves.	1319 (UDP/TCP)
integration! Solutions	This feature on the Master uses, by default, port 10500 for the XML based communication protocol. This port is connected to by the client web browser's JVM when integration! Solutions control pages are retrieved from the on-board Master's web server. For maximum flexibility, the on-board Master can be configured to utilize a different port than 10500 or to disable integration! Solutions completely.	10500 (TCP)

**NOTE:** While the NXC-ME260/64 is capable of receiving 8 and 9 bit characters, it cannot receive 7 bit, 1 stop bit data from a serial device (ex: 9600, N,7,1).

### SPE Port Connection/Wiring

Use an RJ-11 cable to connect the NXC-ME260/64 to an AXB-SPE Slave Port Expander.

The EXPANSION OUT port on the rear panel of the NXC-ME260/64 connects to the EXPANSION IN port on the rear panel of the AXB-SPE (FIG. 10).

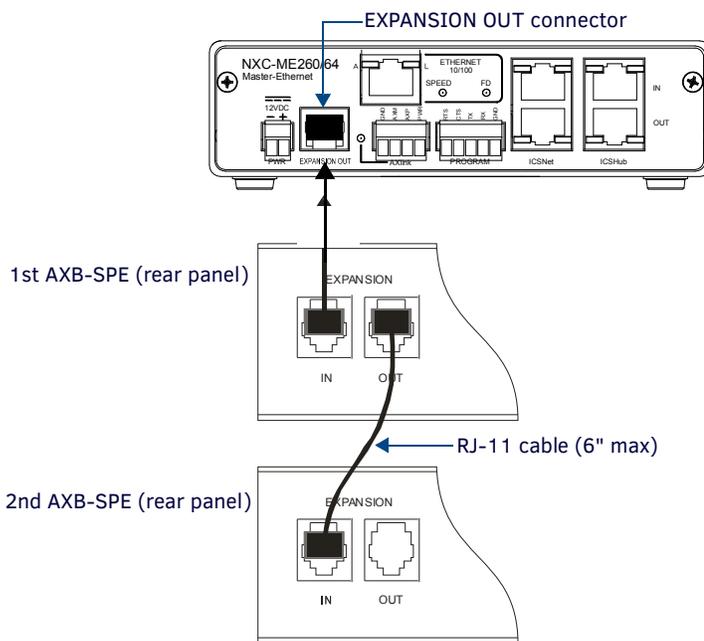


**FIG. 10** AXB-SPE (rear panel)

You can daisy chain multiple AXB-SPE's by connecting the EXPANSION OUT on the primary AXB-SPE to the EXPANSION IN port on the secondary, as shown in FIG. 11.

**NOTE:** The connecting RJ-11 cable should not exceed 6" in length.

Repeat this process to connect up to nine AXB-SPE's.



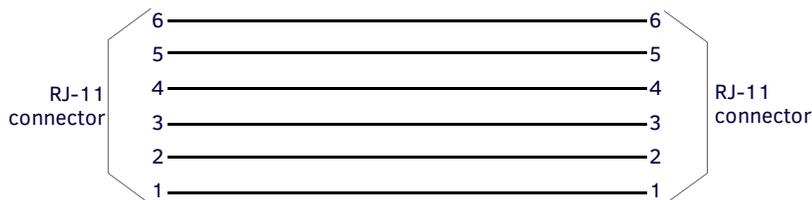
**FIG. 11** Daisy chaining two or more AXB-SPE's off of an NXC-ME260/64

**SPE Cable Pinout Information**

AMX supplies a 6" RJ-11 cable with the AXB-SPE. Do not use a standard phone extension cable; it will not work with the AXB-SPE. The following table gives pinout information for the RJ-11 SPE connector:

SPE Connector Pinouts and Signals	
Pin	Signal
1	n/c
2	GND
3	TX
4	TX enable
5	RX
6	n/c

- The EXPANSION connectors (on the AXB-SPE) use pins 2, 3, 4 and 5.
- Pin 2 is Ground; the others are all pin-to-pin connections.
- FIG. 12 diagrams the RJ-11 cable and connectors.



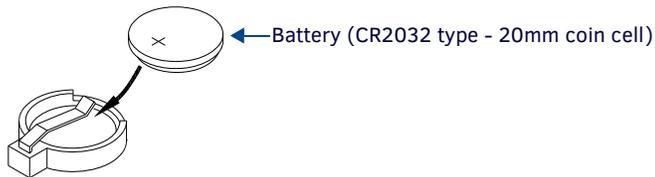
**FIG. 12** RJ-11 wiring diagram

## Replacing the Lithium Batteries

**CAUTION:** RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN INCORRECT TYPE. DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS. These cells can be used in series or parallel up to a maximum of four cells of the same model number. When the cells are replaced, they should all be replaced at the same time using fresh cells only. These cells should not be connected in series or parallel with any other (other than the allowed number of cells in series or parallel) power source that would increase the forward current through the cells.

The NXC-ME260/64 is equipped with two lithium batteries (**FG57-0013**) that have a life of approximately 2.5 years to protect their memory.

- When DC power is on, the batteries (FIG. 13) are not used.
- When replacing the batteries, remove one at a time to avoid losing the program in memory.



**FIG. 13** Lithium battery and socket

1. Discharge the static electricity from your body by touching a grounded metal object.
2. Unplug all the connectors from the Controller or Module.
  - **NetLinX Integrated Controller (NXI):** Remove the rear panel from the NXI. Then, disconnect the NXI control cable and remove the Master card.
  - **NetLinX Module (NXS-xxx):** Remove the rear panel from the Module, and remove the Master card.
3. Locate the two batteries behind the Program port on the NXC-ME260/64 circuit board.
4. Carefully slide one battery out of its socket and insert the new battery.
5. Plug the 2-pin 3.5 mm mini-Phoenix PWR (green) connector to reapply power. Wait approximately 1 minute. Then, remove the PWR connector again.
6. Carefully slide the other battery out of its socket and insert the new battery.
7. Replace the Master card (re-connect the NXI control cable to the Master card if replacing in an NXI).
8. Replace and secure the rear faceplate using the mounting screws and reconnect all communication connectors.
9. Reconnect the 12 VDC power supply to the respective PWR connector and apply power.



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