NetLinx® NX Integrated Controller

NX-2200 (FG2106-02)

Overview

The NX-2200 / NetLinx® NX Integrated Controller is a programmable network appliance specifically designed to control AV and building technology using multiple analog and digital formats. The NX-2200 provides a scalable platform for the future by combining high performance, backward compatibility and extensive network security features. The NX-2200 is ideal for control and automation of medium-sized rooms and multi-room applications, as it includes more ports and security capabilities than the NX-1200.

Common Applications

- NX Master Security firmware is ideal for enterprise, education, and government policies requiring secure communication over a computer network in line with security standards expected by the IT industry of any equipment running on an enterprise.
- The NX-2200 is a good fit for medium-sized conference rooms or classrooms, lecture halls, home theaters, hotel rooms and building environmental systems.
- With enhanced security features like Dual NIC, the NX-2200 provides secure control and monitoring for a medium-sized AV system, HVAC, lights, security, power management, and many similar specialized applications requiring economical control with limited physical ports.

Features

- **Dual NIC** – The LAN port is used to connect the master to an external network, and the ICSLAN ports connect to AMX or third-party A/V equipment isolated from the primary network, providing rock-solid security
- **IPv6** – Supports Internet Protocol version 6 (IPv6), the communications protocol that provides an identification and location system for computers on networks and routes traffic across the Internet
- **IEEE 802.1X** – Supports IEEE Standard for Port-based Network Access Control with the ability to grant or deny network access to devices wishing to attach to a LAN based on credentials tied to the device rather than to a user
- **X.509 Certificate Services** – NX supports customer-provided certificates for access to protected networks.
- **Full LDAP Integration** – Supports multiple user-defined login groups for accessing the master, as well as provides an AMX programmer the capability to require network login to access certain areas of the touch panel
- **High Performance Architecture, Flexible Programming Platform (RPM, NetLinx and Java)** – Easily scalable to support a wide range of applications for today and tomorrow

- **Full Line Compatible (Backwards and Cross-Compatibility)** – Standardized port numbers and new configuration import/export tools mean fewer coding changes
- **TLS / SSH Client** – Provides NetLinx programmers the ability to manage secure port TLS and SSH communications with a remote device or server
- **Cryptographic Support** – In accordance with FIPS 140-2, a U.S. government computer security standard used to accredit cryptographic modules for the protection of sensitive or valuable data
- **Network Syslog** – The Central Controller generates an audit record of events using syslog, a standard for message logging
- **Enhanced Diagnostics On Serial and IR Ports** – Provides real time error feedback when Serial and IR ports are disconnected or improperly wired
- **File Import / Export From USB Drive** – Backup and restore configuration and program data and update firmware from a standard USB flash drive
- **Hardware / Software Built for 24/7/365 Operation** – Provides outstanding reliability and improved diagnostics

Additional Features
- **Ultra-Fast 1600 MIPS processor**
- **512 MB Onboard RAM**
- **1 M Non-Volatile Memory**
- **8 GB SDHC FLASH Memory**
- **1 RU Rack Space**
- **1 AXLink Interface**
- **1 10/100 LAN Interface**
- **1 10/100 ICSLan Interface**
- **4 Digital I/O Ports**
- **1 RS-232/422/485 Port**
- **3 RS-232-Only Ports**
- **4 IR/Serial Output Ports**
- **4 Relay Ports**

Specifications

GENERAL	
Enclosure	Metal with black matte finish
Dimensions (HWD)	1 3/4" x 17" x 9 1/8" (44.86 mm x 431.80 mm x 231.65 mm)
Weight	6.08 lb. (2.758 Kg)
Regulatory Compliance	FCC CFR Title 47 Part 15 CE EN 55022 CE EN 55024 CE EN 60950-1 IEC 60950-1 UL 60950-1 C-Tick CISPR 22 IC CISPR 22 VCCI CISPR 22 RoHS WEEE
Included Accessories	• 2-pin 3.5 mm mini-Phoenix (female) PWR connector (41-0002-SA) • 4-pin 3.5 mm mini-Phoenix (female) AxLink connector (41-5047) • 10-pin 3.5mm mini-Phoenix female RS-232/422/485 connectors (41-5107) • (3) 5-pin 3.5mm mini-Phoenix female RS-232 connectors (41-0336)

	• 6-pin 3.5 mm mini-Phoenix female I/O connector (41-5063) • 8-pin 3.5 mm mini-Phoenix female Relay connector (41-5083) • (2) CC-NIRC IR Emitters • (2) Removable rack ears
Optional Accessories	• PSN6.5, 6.5 A Power Supply (FG423-41) • PSR5.4, 12 VDC, 5.4 A Power Supply with 3.5 mm Phoenix Connector with Retention Screws (FG423-48) • PSN4.4, Power Supply, 4.5 A, 3.5 mm Phoenix, 13.5 VDC (Discontinued) (FG423-45) • CC-USB-NI, USB Programming Cable (FG10-2105) • CC-NIRC, IR Cables (FG10-000-11) • CBL-ETH-FL2, Cat6 Ethernet Cable (FG10-2194-16) • CBL-ETH-FL, Ethernet Cat5e Flat Cable (FG10-2182-16) • EXB-IRS4, ICSLan IR/S Interface, 4 IR/S and 4 Inputs (FG2100-23) • EXB-COM2, ICSLan Serial Interface, 2 Ports (FG2100-22) • EXB-REL8, ICSLan Relay Interface, 8 Channels (FG2100-20) • EXB-I/O8, ICSLan Input/Output Interface, 8 Channels (FG2100-21) • EXB-MP1, ICSLan Multi-Port, 1 COM, 1 IR/S, 2 I/O, 1 IR RX (FG2100-26)

ACTIVE POWER REQUIREMENTS	
Voltage, DC (typical)	12 VDC
DC Current Draw	250 mA @ 12 VDC
Voltage DC Range	9 - 18 VDC
Power Connector	3.5mm Phoenix with retaining screws

POWER CONSUMPTION	
Active Power Consumption	4.2 W

ENVIRONMENTAL	
Temperature (Operating)	32° F to 122° F (0° C to 50° C)
Temperature (Storage)	14° F to 140° F (-10° C to 60°C)
Humidity (Operating)	5% to 85% RH
Heat Dissipation (Typical)	14.3 BTU/hr

ONBOARD MASTER	
Processor	1600 MIPS
Program Port	(1) USB Standard B
Configuration Dip Switch	4-position
Status Indicator	Status LED (green) blinks to indicate that the system is programmed and communicating properly
Input Indicator	Input LED (yellow) blinks to indicate that the Controller is receiving data
Output Indicator	Output LED (red) blinks to indicate that the Controller is transmitting data
ID Pushbutton	Black ID pushbutton for setting IP mode and reverting to default configuration and firmware

USB Host Port	(2) USB Standard A, one on front and one on back, USB Host port supports Solid State drive for upgrading firmware, loading code files, copying configuration data and remote storage

MEMORY	
NVRAM	1 MB
Memory Card	8 GB SD
DDRAM	512 MB
Note	Supports external USB Solid State Drives

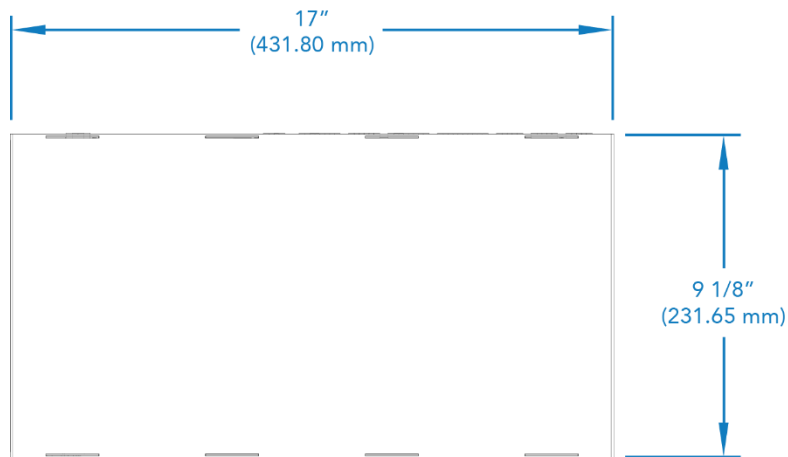| ETHERNET	
Connection	(1) RJ-45
Description	10/100 Port RJ-45 connector provides TCP/IP communication. Auto MDI/MDI-X enabled. Supports IPv4 and IPv6 networks. Supports HTTP, HTTPS, Telnet, FTP
Link/Act Indicator	Link/Activity LED (green) blinks when receiving Ethernet data packets, one on Ethernet RJ-45 connector and one on the front panel
Speed Indicator	Speed LED (yellow) lights On when the connection speed is 100 Mbps Ethernet connection and turns OFF when the speed is 10 Mbps

ICSLan	
ICSLan Connection	(1) RJ-45, 10/100 Port RJ-45 connector. Auto MDI/MDI-X enabled. Supports IPv4 and IPv6 networks. Supports HTTP, HTTPS, Telnet, FTP
ICSLan Link/Active Indicator	ICSLan LED (green) blinks when receiving Ethernet data packets, one on Ethernet RJ-45 connector and one on the front panel
ICSLan Speed Indicator	Speed LED (yellow) lights On when the connection speed is 100 Mbps Ethernet connection and turns OFF when the speed is 10 Mbps

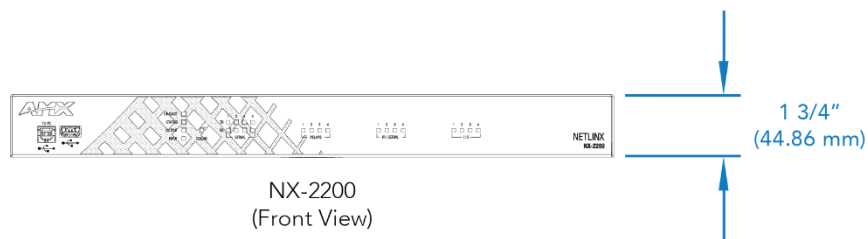| CONTROL PORTS & INDICATORS	
AxLink Port	(1) 4-position 3.5mm Screw Terminal, provides data and power to external AxLink control devices
AxLink Indicator	(1) AxLink LED (green) indicates the state of the AxLink port
RS-232/422/485 Port	(1) 10-position 3.5mm Screw Terminal NetLinx Port 1 XON/XOFF (transmit on / transmit off) CTS/RTS (clear to send/ready to send) 300 - 115,200 baud
RS-232 Port	(3) 2-position 3.5mm Screw Terminal NetLinx Port 2-4 XON/XOFF (transmit on / transmit off) CTS/RTS (clear to send/ready to send) 300 - 115,200 baud
Serial Indicator	(4) sets of LEDs (red/yellow) indicate when serial Ports 1-4 are transmitting and receiving data

IR/Serial	(4) 2-position 3.5mm Screw Terminal 4 IR Transmit / 1-way Serial ports NetLinx Ports 11-14 Support high-frequency carriers up to 1.142 MHz 4 IR/Serial data signals can be generated simultaneously
IR/Serial Indicators	(2) LEDs (red) indicate when each of the IR/Serial ports (11-14) are transmitting control data
I/O Channels	(4) One 6-position 3.5mm Screw Terminal 4-channel binary I/O port for contact closure with each input being capable of voltage sensing NetLinx Port 22 Channels 1-4
I/O Indicator	(4) LEDs (yellow) indicate each of the I/O channels (1-4) are active
Relays	(4) One 8-position 3.5 mm Screw Terminal, (4) single-pole, single-throw relays NetLinx Port 21 Channels 1-4 Each relay can switch up to 24 VDC or 28 VAC @ 1 A Each relay is independently controlled
Relay Indicators	(4) LEDs (red) indicate when each of the relay channels (1-4) are active (closed)

For a more detailed pictorial drawing please visit: http://www.amx.com/products/NX-2200.asp

17"
(431.80 mm)

9 1/8"
(231.65 mm)

NX-2200
(Top View)

1 3/4"
(44.86 mm)

NX-2200
(Front View)

NX-2200
(Back View)

NX-2200
(Right View)