NetLinx® Controllers

NI-4100 NetLinx® Integrated Controller

The NI-4100 provides versatility with the ability to integrate the largest number of devices in the NI Series of Master Controllers, including projectors, lighting, VCR and DVD players, thermostats and other electronic equipment. In these technology-driven environments, this solution allows for the future addition of more devices and control capabilities.

A WORLD OF CONTROL POSSIBILITIES

With a perfect mix of compatible formats, the NI-4100 offers flexibility and customization for businesses experiencing rapid growth and for homes that demand seamless integration of technology and design. The NI-4100 provides higher performance with a faster processor and 64MB of onboard RAM. Integrated Device Discovery also simplifies system programming by standardizing device and function definitions, default touch panel button assignments, and control and feedback methods.

- 8 IR / Serial output ports
- 8 Digital I/O channels
- 8 Relay channels
- 7 Configurable RS-232 / RS-422 / RS-485 Serial ports
- 1 Ethernet 10/100 Port
- 1 AxLink Bus Connector
- 2 ICSNet Ports
- 1 ICSHub Port
- 4 NetLinx Control Card Expansion slots that support all NXC control cards
- 404 MIPS processor speed
- 64 MB RAM
- 128 MB CompactFlash (upgradeable to 1G)
- 1 MB Non-Volatile Memory
- Device Discovery enabled

NI-4100 (FG2105-06)

POWER
900 mA @ 12 VDC. Additional power required for each NXC card that is inserted. See NXC card specification for individual card requirements.

MEMORY
- 64 MB SDRAM
- 1 MB of Non-volatile SRAM
- 128 MB Compact Flash (upgradeable to 1 GB factory programmed)

ENCLOSURE
Metal with black matte finish

DIMENSIONS (HWD)
5 3/16" x 17" x 9 5/16" (13.2 cm x 43.2 cm x 23.7 cm)

WEIGHT
9.15 lbs (4.15 kg)

CERTIFICATIONS
- FCC Part 15 Class B
- CE
- IEC 60950

PROCESSING POWER
- 32-bit microprocessor
- 404 MIPS
- Real-time operating system

FRONT PANEL COMPONENTS:
LED INDICATORS
- LNK/ACT: Green LED lights when the Ethernet cables are connected and terminated correctly and blinks when receiving Ethernet data packets.
- Status: Green LED blinks to indicate that the system is programmed and communicating properly.
- Output: Red LED blinks when the Master transmits data, sets channels on and off, sends data strings, etc.
- Input: Yellow LED blinks when the Master receives data from button pushes, strings, commands, channel levels, etc.

RS-232/422/485 LEDS
- Seven sets of red and yellow LEDs light to indicate Ports 1-7 are transmitting or receiving RS-232, 422, or 485 data
- TX LEDs (red) blink when transmitting data.
- RX LEDs (yellow) blink when receiving data.
- LED activity reflects transmission and reception activity

RELAY LEDS
Eight red LEDs light to indicate the relay channels 1-8 are active (closed) on Port 8.

IR/SERIAL LEDS
- Eight red LEDs light to indicate the IR/Serial channels 1-8 are transmitting control data on Ports 9-16.
- LED indicator for each IR port remains lit for the length of time that IR/Serial data is being generated.

I/O LEDS
Eight yellow LEDs light when the I/O channels 1-8 are active on Port 17.

EXPANSION CARD SLOTS
Accepts up to four (4) NetLinx Control Cards

REAR PANEL COMPONENTS:
POWER CONNECTOR
2-pin (male) green captive-wire connector for 12 VDC power supply.

ETHERNET 10/100 PORT
- RJ-45 Ethernet 10/100 connector. Automatically negotiates connection speed and whether to use half or full duplex mode.
- Ethernet Protocols used by NI-4100:
  - ICSP - peer to peer protocol used for both master-to-master and master-to-device communications.
  - ICMP - To connect over a network, ping an NI-4100.
  - Telnet - NetLinx telnet server provides a mechanism to configure and diagnose a NetLinx system.
  - HTTP - NI-4100 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.
  - FTP - NI-4100 has a built-in FTP server that conforms to RFC959.
  - integration! Solutions - integration! Solutions feature uses port 10500 for the XML based communication protocol.

ICSNET:
- Two RJ-45 connectors for ICSNet interface that provides 12 VDC @ 500 mA and data to external ICSNet devices.
- Category 5 network (600 kbps) connects up to 32,000 NetLinx devices, operates over 1000 feet of wiring for each ICSNet port, supplies 12 VDC power for ICSNet devices.

ICSHUB OUT:
RJ-45 connector that provides data to a Hub.

AXLINK CONNECTOR
- Black 4-pin (male) captive-wire connector that provides data and power to external control devices (6 A max power rating).
- Axlink - 4-wire network (20.8 kbps) connects up to 255 Axcess devices, operates up to 3,000 feet of wiring and supplies 12 VDC power.

PROGRAM PORT
DB-9 (male) connector that supports RS-232 communications to a PC for system programming and diagnostics.

CONFIGURATION DIP SW
8-position DIP switch for setting the baud rate for Program Port. Baud rate settings are: 9600, 38,400 (default), 57,600, and 115,200 bps.

ID BUTTON
Pushbutton sets device address ID (in conjunction with NetLinx Studio v1.2 build 200 or higher).

RS-232/422/485: (PORTS 1-7)
Seven RS-232/422/485 control ports using DB-9 (male) connectors with XON/XOFF (transmit on/transmit off), CTS/RTS (clear to send/request to send), and 300-115,200 baud.

RELAY (PORT 8)
- 8-channel single-pole single throw relay ports
- Each relay is independently controlled
- Supports up to 8 independent external relay devices.
- Each relay can switch up to 24 VDC or 28 VAC @ 1 A.

DIGITAL I/O (PORT 17)
- 8-channel binary I/O port for contact closure
- Each input is capable of 0-5 VDC voltage sensing. Input format is software selectable.

IR/SERIAL (PORTS 9-16)
- Each output is capable of two electrical formats: IR or Serial
- Eight IR/Serial data signals can be generated simultaneously
- Supports up to 1.142 MHz carrier frequency

EXPANSION CARD SLOTS
- Accepts up to four (4) NetLinx Control Cards
- Available cards are: NXC-COM2, NXC-I/O, NXC-IRS4, NXC-REL10, NXC-VAI4, NXC-VOL4

INCLUDED ACCESSORIES
- NI-4100 Quick Start Guide
- 2-pin 3.5 mm mini-Phoenix (female) PWR connector (41-5025)
- 4-pin 3.5 mm mini-Phoenix (female) AxLink connector (41-5047)
- Two 8-pin mini-Phoenix female connectors (41-5083)
- 10-pin mini-Phoenix female connector (41-5107)
- Two CC-NIRC IR Emitters (FG10-000-11)
- Two removable rack ears (62-2105-07)
- One Relay Terminal Common Strip (41-2105-01)
- Four rack mount screws (80-0186)
- Four washers (80-0342)

OPTIONAL ACCESSORIES
- CSB Cable Support Bracket (FG517)
- PSN6.5 - 12 VDC Power Supply (FG423-41)
- CC-N232 RS232/422 Cables
- CC-NIRC IR Cables (FG10-000-11)
- CC-NREL Relay Cables
- CC-NSER IR/Serial Cables
- NXC Control Cards for expansion slots
- Upgrade Compact Flash (factory programmed with firmware):
  - NXA-CF2NI256M - 256 MB flash upgrade for NI-2100, NI-3100 & NI-4100 (FG2116-47)
  - NXA-CF2NI512M - 512 MB flash upgrade for NI-2100, NI-3100 & NI-4100 (FG2116-48)
  - NXA-CF2NI1G - 1 GB flash upgrade for NI-2100, NI-3100 & NI-4100 (FG2116-49)
- STS, Serial to Screw Terminal (FG959)
- NCK, NetLinx Connector Kit (FG2902)
- 2-pin, 3.5mm Black Male Phoenix Connector (41-5021)

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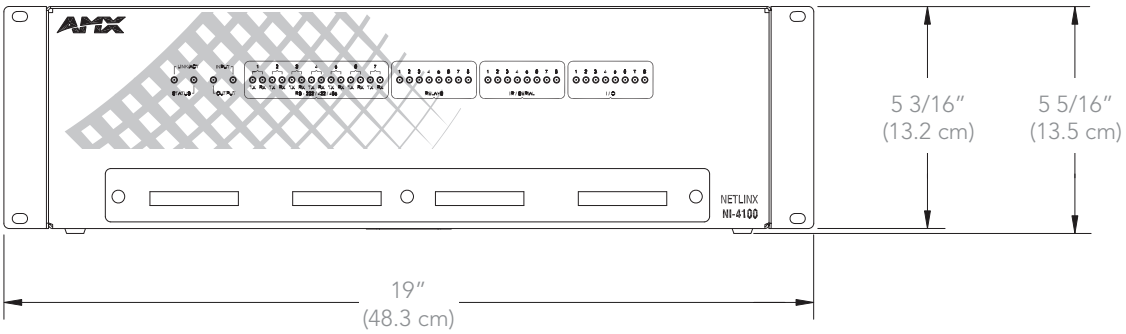
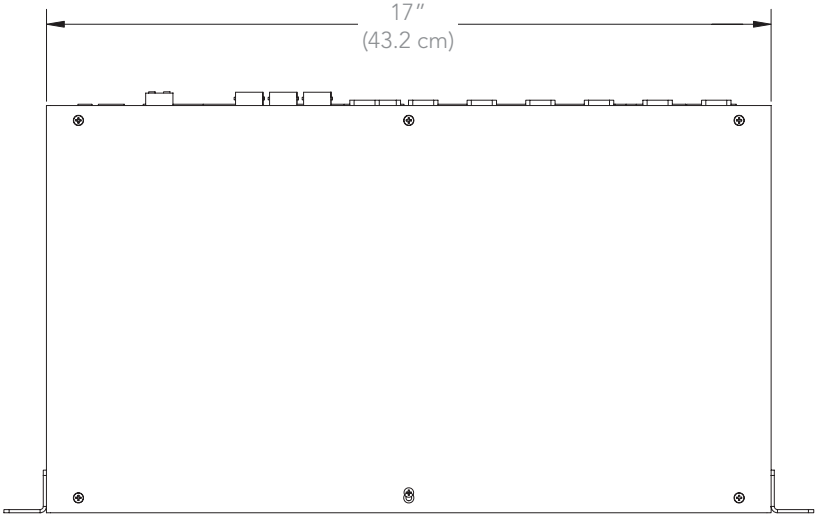
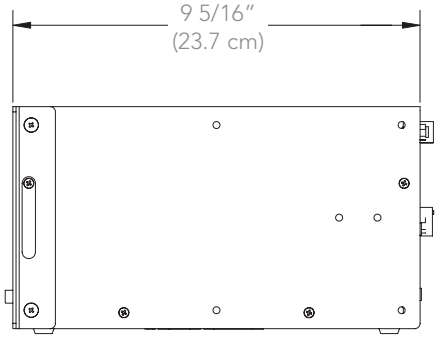


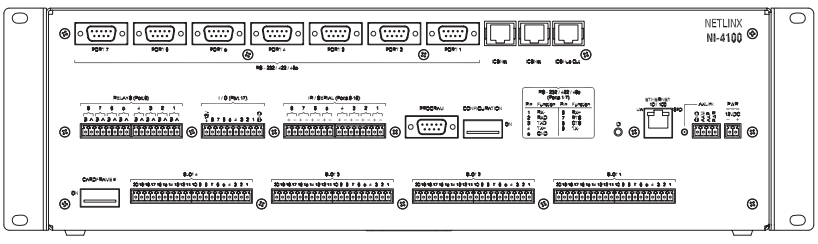
NI-4100
(Front View)



NI-4100
(Top View)



NI-4100
(Right View)



NI-4100
(Back View)