Embedded Device Servers

NE-4100 Series

10/100 Mbps embedded serial device servers

NE-4110S/4110A

NE-4120S/4120A

NE-4100T

Overview

Moxa’s NE-4100 embedded device servers are designed for manufacturers who want to add sophisticated network connectivity to their serial devices. Moxa’s embedded device servers can be used to convert any device with a standard serial interface to an Ethernet-enabled device in no time. The NE-4100 embedded device servers support 10/100 Mbps Ethernet, and provide ready-to-use operation modes, including TCP Server, TCP Client, and UDP. In addition, a Real COM driver is included for backward compatibility with legacy software.

SNMP and E-mail Alerts for Event Trap and Notification

NE-4100 embedded device servers can be configured to send an SNMP trap or e-mail under the following conditions:
- Cold/warm start
- Password authentication failure
- Change in DSR/DCD line signal
- Change in IP address
- Change in password

Dimensions and Pin Assignment

NE-4110S/4110A

NE-4120S/4120A

NE-4110/4120 Series

NE-4110S/4120S

NE-4110T

Pin: Signals
1: Tx+
2: Tx-
3: Rx+
6: Rx-

For 2-wire RS-485 mode, Pin 3 is Data+, Pin 4 is Data-
Embedded Device Servers

Form Factor
Type:
- NE-4110/4120: Ready-to-go stand-alone modules
- NE-4100T: 26-pin dual-in-line package
Dimensions:
- NE-4110/4120: 57 × 40 mm (2.24 x 1.57 in)
- NE-4100T: 45 × 36 mm (1.77 x 1.42 in)
Weight:
- NE-4110S/4110A: 40 g
- NE-4120S/4120A/4100T: 20 g

Ethernet Interface
Number of Ports: 1
Speed: 10/100 Mbps, auto MDI/MDIX
Connector:
- NE-4110 Series: RJ45
- NE-4120 Series: 5-pin pin header
Magnetic Isolation Protection: 1.5 KV built-in

Serial Interface
Number of Ports: 2
Serial Standards:
- Port 1: NE-4110S/4120S: RS-232
  - NE-4110A/4120A: RS-422, RS-485-4w, RS-485-2w
  - NE-4100T: TTL
- Port 2: TTL console port
RS-485 Data Direction Control: ADDC® (automatic data direction control)

Serial Communication Parameters
Data Bits: 5, 6, 7, 8
Stop Bits: 1, 1.5, 2
Parity: None, Even, Odd, Space, Mark
Flow Control: DSR/DTR and RTS/CTS (RS-232 only), XON/XOFF
Baudrate: 110 bps to 230.4 Kbps

Serial Signals
TTL:
- Port 1: TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND
- Port 2: TxD, RxD, GND
RS-232: TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND
RS-422: Tx+, Tx-, Rx+, Rx-, GND
RS-485-4w: Tx+, Tx-, Rx+, Rx-, GND
RS-485-2w: Data+, Data-, GND

Digital I/O Pins
GPIO: 4 programmable I/O pins

Software
Network Protocols: ICMP, ARP, IP, TCP, UDP, DHCP, Telnet, HTTP, SNMP V1/V2c, SMTP
Configuration Options: Web Console, Serial Console, Telnet Console, Windows Utility

Windows Real COM Drivers: Windows 95/98/ME/NT/2000, Windows XP/2003/Vista/2008/7 x86/x64, Embedded CE 5.0/6.0, XP Embedded
Fixed TTY Drivers: SCO Unix, SCO OpenServer, UnixWare 7, UnixWare 2.1, SVR 4.2, ONX 4.25, ONX 6, Solaris 10, FreeBSD, AIX 5.x
Linux Real TTY Drivers: Linux kernel 2.4.x, 2.6.x
Operation Modes: Real COM, TCP Server, TCP Client, UDP

Environmental Limits
Operating Temperature:
- Standard Models: 0 to 55°C (32 to 131°F)
- Wide Temp. Models: -40 to 75°C (-40 to 167°F)
Storage Temperature: -40 to 75°C (-40 to 167°F)
Ambient Relative Humidity: 5 to 95% (non-condensing)

Power Requirements
Input Voltage: 5 VDC (+5%)
Power Consumption: 290 mA @ 5 VDC max.

Standards and Certifications
EMC: CE, FCC
EMI: EN 55022 Class B, FCC Part 15 Subpart B Class A
EMS: EN 55024, EN 61000-4-2 (ESD), EN 61000-4-3 (RS), EN 61000-4-4 (EFT), EN 61000-4-5 (Surge), EN 61000-4-6 (GS), EN 61000-4-11
Green Product: RoHS, CRoHS, WEEE

Reliability
Automatic Reboot Trigger: Built-in WDT (watchdog timer)
MTBF (mean time between failures):
- NE-4100T: 288,173 hrs
- NE-4110A: 289,573 hrs
- NE-4110S: 290,276 hrs
- NE-4120A: 289,573 hrs
- NE-4120S: 285,874 hrs

Warranty
Warranty Period: 5 years
Details: See www.moxa.com/warranty

Available Modules
- NE-4110S: Device server module for RS-232 devices, supports 10/100BaseT(x) with RJ45 connector
- NE-4110A: Device server module for RS-422/485 devices, supports 10/100BaseT(x) with RJ45 connector
- NE-4120S: Device server module for RS-232 devices, supports 10/100BaseT(x) with 5-pin Ethernet pin header
- NE-4120A: Device server module for RS-422/485 devices, supports 10/100BaseT(x) with 5-pin Ethernet pin header
- NE-4100T: Device server module for TTL devices, supports 10/100BaseT(x) with DIL package

Available Starter Kits
- NE-4110-ST: Starter kit for the NE-4110S and NE-4110A (module not included)
- NE-4120-ST: Starter kit for the NE-4120S and NE-4120A (module not included)
- NE-4100-ST: Starter kit for the NE-4100T (module not included)

Note: Starter kits do not include the module. Please order modules and evaluation kits separately.

Package Checklist (modules)
- NE-4100 series module

Package Checklist (starter kits)
- Evaluation board
- Universal power adaptor
- 2 power cords
- Null modem cable
- Cross-over Ethernet cable
- Documentation and software CD
- Quick installation guide (printed)
- Warranty card