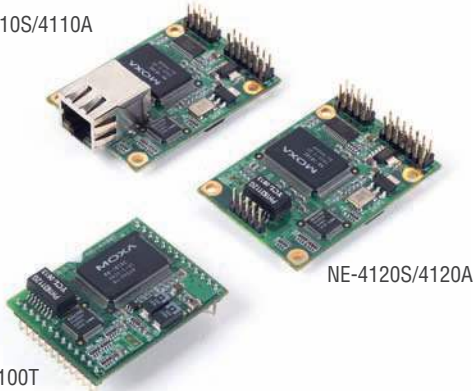


# NE-4100 Series

## 10/100 Mbps embedded serial device servers

NE-4110S/4110A



NE-4120S/4120A

NE-4100T

- > 10/100 Mbps Ethernet interface
- > Up to 230.4 Kbps baudrate support
- > Choice of operation modes: Real COM, TCP Server, TCP Client, and UDP
- > DHCP, BootP, Static IP, and ARP supported
- > SNMP and e-mail alerts for event trapping and notification
- > Half the size of a credit card—only 57 × 40 mm
- > Low power consumption at 1.5W, with single +5V input



### 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

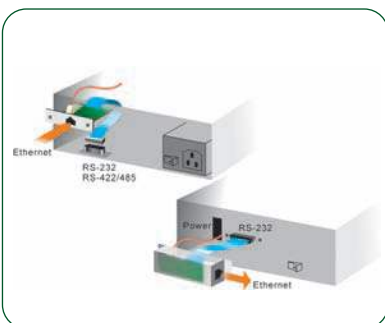
NE-4100 embedded device servers can be configured to send an SNMP trap or e-mail under the following conditions:

- Cold/warm start
- Password authentication failure
- Change in DSR/DCD line signal
- Change in IP address
- Change in password

### On-site Configuration with Serial Command Mode

- Easy on-site configuration of network settings
- Simple command frame format
- Comprehensive command set for serial and network configuration
- Easily switch between software and hardware triggers
- Software reset

### Typical Installation Examples



**NE-4110:** RJ45 Ethernet connector in stand-alone form factor



**NE-4120:** Pin-header Ethernet in stand-alone form factor

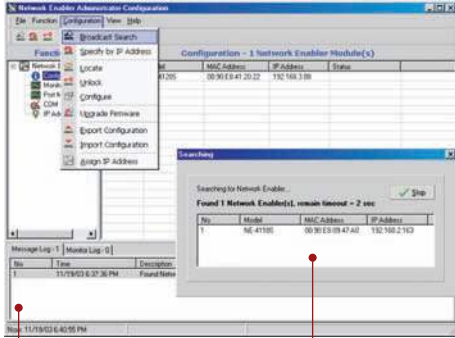


**NE-4100T:** Dual-in-line pin header in drop-in form factor

## Powerful, User-friendly Utilities

### Web-based Configuration

NE-4100 embedded device servers can be configured with the web console, which can be accessed from the web browser of any networked computer.



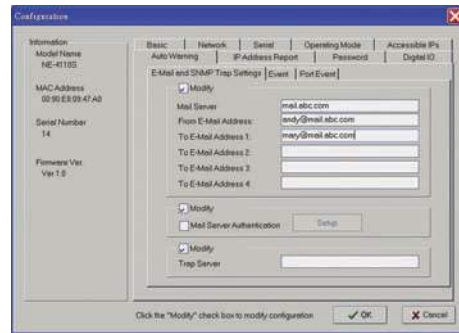
System log for cold boot, warm boot, etc.

Search for installed embedded device servers

### Configure and manage embedded device servers with Moxa's Windows Utility

Network Enabler Administrator is a powerful, Windows-based configuration and management tool for NE-4100 embedded device servers. With Network Enabler Administrator, users can modify IP addresses, update communication parameters, and configure all other settings over the network. This utility has the following useful features:

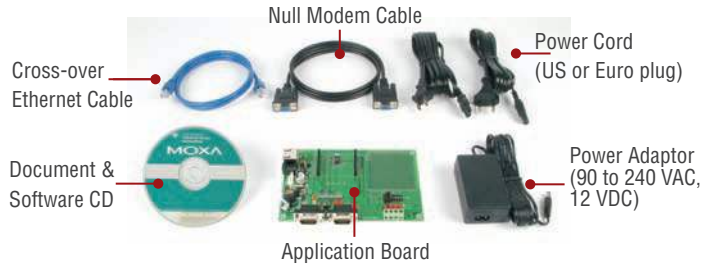
- Search your LAN for embedded device servers
- Export and import configuration parameters
- Upgrade firmware over the network
- Remotely monitor data traffic, serial line status, and TCP/IP connections
- Configure SNMP and e-mail alerts



Remotely configure serial, network, alarm, and other parameters

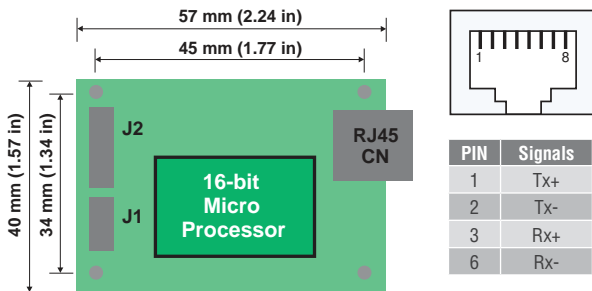
## NE-4100 Starter Kit

The Network Enabler Starter Kit includes an evaluation board, power adaptor, software, and serial and Ethernet cables to allow quick and easy evaluation of all embedded device server functions. The evaluation board is equipped with serial, Ethernet, digital I/O, and power circuits to help you test your modules and applications.

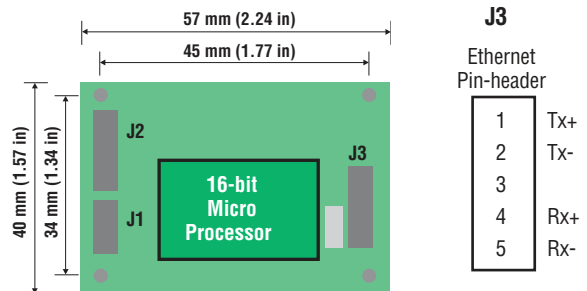


## Dimensions and Pin Assignment

NE-4110S/4110A



NE-4120S/4120A



**J3**  
Ethernet Pin-header

1	Tx+
2	Tx-
3	Rx+
4	Rx-
5	Rx-

**NE-4110/4120 Series**

J2			
GND	14	13	VCC(+5V)
GND	12	11	VCC(+5V)
DIO0	10	9	10M_LED
DIO1	8	7	100M_LED
DIO2	6	5	Ready_LED
DIO3	4	3	Reset
TxD1	2	1	RxD1

**NE-4110S/4120S**

J1			
NC	10	9	NC
CTS0	8	7	RTS0
DSR0	6	5	GND
DTR0	4	3	TxD0
RxD0	2	1	DCD0

**NE-4110A/4120A**

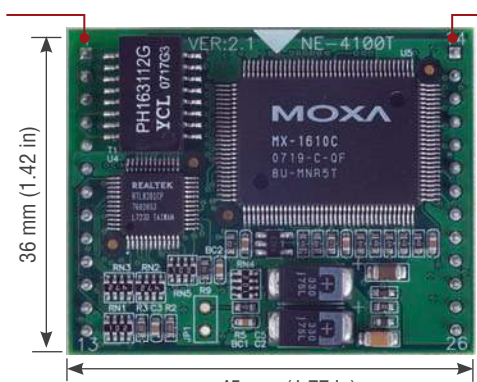
J1			
NC	10	9	NC
NC	8	7	NC
NC	6	5	GND
RxD- (Data-)	4	3	RxD+ (Data+)
TxD+	2	1	TxD-

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



**NE-4110T**

Pin No.	Signal
1	ETx+
2	ETx-
3	ERx+
4	ERx-
5	LED 10M
6	TxD0
7	RxD0
8	RTS0
9	CTS0
10	Reset
11	GND
12	GND
13	TxD1



Pin No.	Signal
14	PI00
15	PI01
16	PI02
17	PI03
18	LED 100M
19	DCD0
20	DSR0
21	DTR0
22	GND
23	Ready LED
24	+5V
25	+5V
26	RxD1

(45 × 36 mm, 26-pin DIL package, 2.54 mm pitch)

**Specifications**

**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  
NE-4100T: 26-pin dual-in-line

**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 Flow 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, XP x86/x64, 2003 x86/x64, Vista x86/x64, 2008 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, QNX 4.25, QNX 6, Solaris 10, FreeBSD, AIX 5.x, HP-UX 11i

**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)

**Operating Humidity:** 5 to 95% RH

**Storage Temperature:** -40 to 75°C (-40 to 167°F)

### Power Requirements

**Input Voltage:** 5 VDC ( $\pm 5\%$ )

**Power Consumption:** 290 mA @ 5 VDC max.

### Regulatory Approvals

**EMC:** CE EN55022 Class A, FCC Part 15 Subpart B Class A

### Reliability

**Automatic Reboot Trigger:** Built-in WDT (watchdog timer)

### MTBF (mean time between failures):

NE-4100T: 288173 hrs

NE-4110A: 289573 hrs

NE-4110S: 290276 hrs

NE-4120A: 289573 hrs

NE-4120S: 285874 hrs

### Warranty

**Warranty Period:** 5 years

**Details:** See [www.moxa.com/warranty](http://www.moxa.com/warranty)

## Ordering Information

### 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

**NE-4120-ST:** Starter kit for the NE-4120S and NE-4120A

**NE-4100-ST:** Starter kit for the NE-4100T

### Package Checklist (modules)

- NE-4100 series module

### Package Checklist (starter kits)

- NE-4100-ST or NE-4110-ST or NE-4120-ST evaluation board
- Universal power adaptor
- 2 power cords
- Null modem cable
- Cross-over Ethernet cable
- Document and Software CD
- Quick Installation Guide (printed)
- Warranty Card