

# NE-4100 Series

## 100 Mbps Embedded Network Enabler for Serial Devices

### Features

- Ready-to-go Serial-to-Ethernet module to network enable any serial device (RS-232/422/485, TTL)
- 10/100 Mbps Ethernet interface, 115.2 Kbps Serial interface
- Supports TCP Server/Client, UDP, and Real COM operation modes
- Supports DHCP, BootP, Static IP, and ARP
- Supports SNMP and Email Alert functions for event trapping and notification
- Half the size of a credit card—only 57 × 40 mm
- Single +5V input, 1.5W low power consumption



NE-4110S  
NE-4110A



NE-4120S  
NE-4120A



NE-4100T

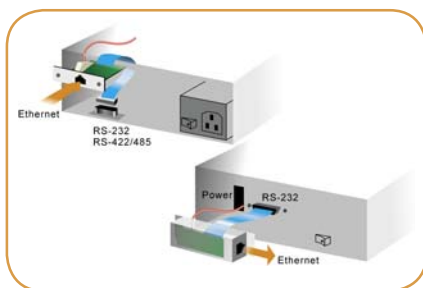
MOXA NE-4100 Series Network Enablers are designed for manufacturers who want to add sophisticated network connectivity to their products. Any device with a standard serial interface can now connect to Ethernet with Moxa Network Enablers in a snap. NE-4110 Series provides a 10/100 Mbps Ethernet interface with ready-to-use TCP Server/Client and UDP, and a Real COM driver is also included for backward compatibility with the original software.

### SNMP and Email Alert for Event Trap/Notification

NE-4100 Series will send SNMP trap or Emails when the following conditions occur:

- Cold/Warm start
- Password authentication fails
- DSR/DCD line signal changes
- IP Setting changes
- Password changes

### Typical Installation Examples



**Stand-alone Type**  
(RJ45 Ethernet, NE-4110 Series)



**Stand-alone Type**  
(Pin header Ethernet, NE-4110 Series)



**Drop-in Type**  
(Dual-in-line pin header, NE-4100T)

## Specifications

### Form Factor

#### Type:

NE-4110/4120 Series: Stand-alone module, ready-to-go

NE-4100T Series: 26-pin dual-in-line package

#### Dimensions:

NE-4110/4120 Series: 57 × 40 mm

NE-4100T Series: 45 × 36 mm

### LAN Interface

**Type:** 10/100 Mbps auto-sensing

**Protection:** 1.5 KV isolation

**Connector:** NE-4110 Series: RJ45 connector

NE-4120 Series: 5-pin Pin Header

### Serial Interface

#### Port 1:

NE-4110S/4120S: RS-232

NE-4110A/4120A: RS-422/RS-485 (2-wire)/RS-485 (4-wire)

NE-4100T: serial (TTL)

**Port 2:** serial (TTL) console port

#### Serial Signals

**RS-232:** TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND

**RS-422:** Tx+, Tx-, Rx+, Rx-, GND

**RS-485:** Data+, Data-, GND with ADDC™

(Automatic Data Direction Control)

**TTL (Port 1):** TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND

**TTL (Port 2):** TxD, RxD, GND

#### Serial Parameters

**Parity:** None, Even, Odd, Space, Mark

**Data Bits:** 5, 6, 7, 8

**Stop Bits:** 1, 1.5, 2

**Flow Control:** RTS/CTS, XON/XOFF

**Speed:** 50 bps to 115.2 Kbps

### Digital I/O Pins

Four programmable I/O pins (GPIO)

### Software Features

**Protocols:** ICMP, ARP, IP, TCP, UDP, DHCP, Telnet, HTTP, SNMP, SMTP

**Operation Modes:** TCP Server, TCP Client, UDP, Real COM Driver (supporting Windows 98/NT/2000/XP)

### Management

**Management Tools:** Windows Administration Utility, Web browser, Telnet console, serial console, and NECI (.DLL) for developing users' own management utility

**SNMP trap:** Cold/Warm start, IP setting changed, Password authentication failure, Password changed, DSR/DCD line signal changed

### Power Requirements

**Power input:** 5 VDC, +/- 5%

**Power consumption:** 290 mA @ 5 VDC (max.)

### Temperature/Humidity

**Operation:** 0 to 70°C (32 to 158°F), 5 to 95% RH

**Storage:** -20 to 85°C (-4 to 185°F), 5 to 95% RH

### Regulatory Approvals

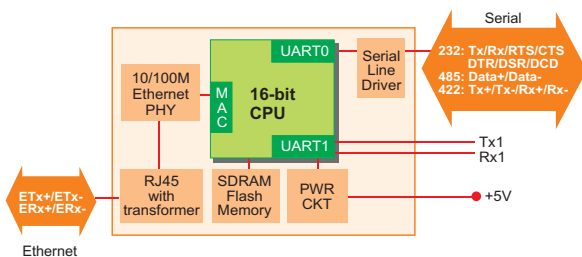
FCC Class B, CE Class B

### Warranty

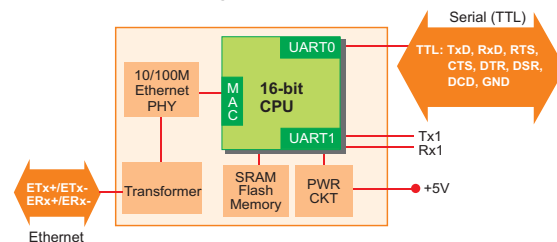
5 years

## Block Diagram

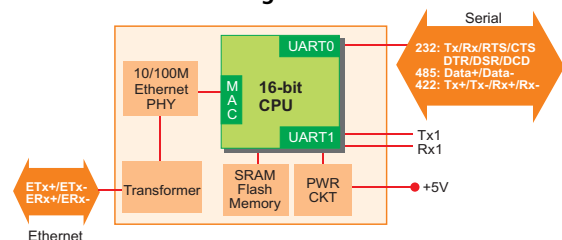
NE-4110 Series Block Diagram



NE-4100T Block Diagram

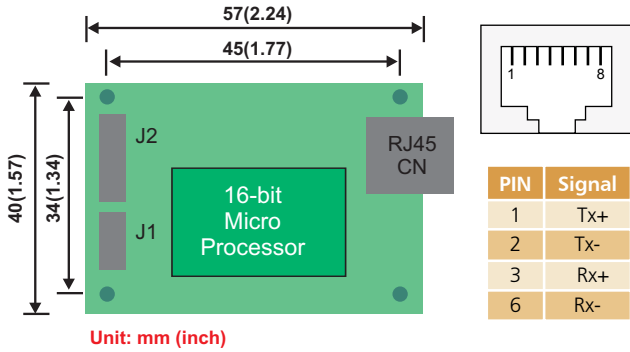


NE-4120 Series Block Diagram

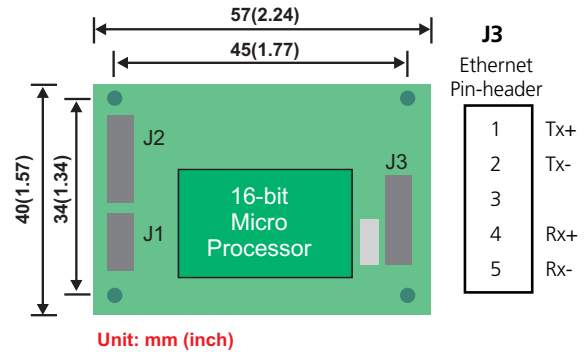


## 100 Mbps NE-4110/4120 Series Pin Assignments and Dimensions

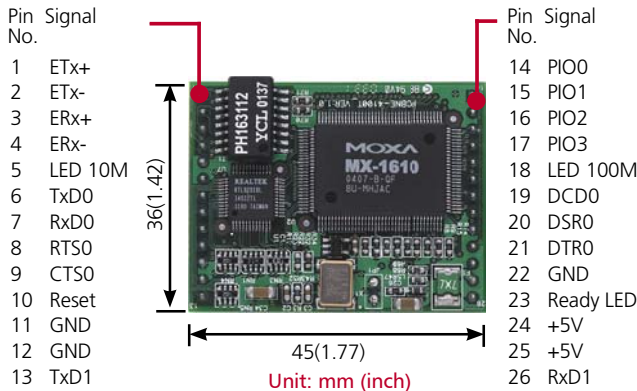
NE-4110S/4110A



NE-4120S/4120A

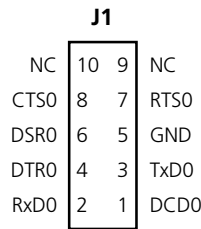


### NE-4100T Pin Assignments

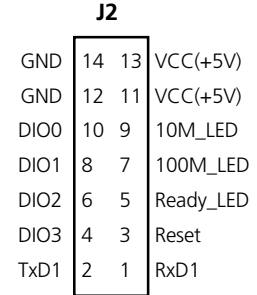


(45 × 36 mm, 26-pin DIL package, 2.54 mm pitch)

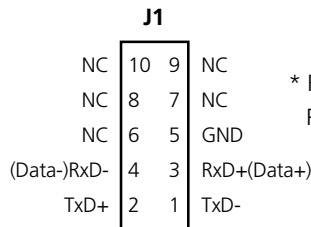
NE-4110S/4120S



NE-4110/4120 Series

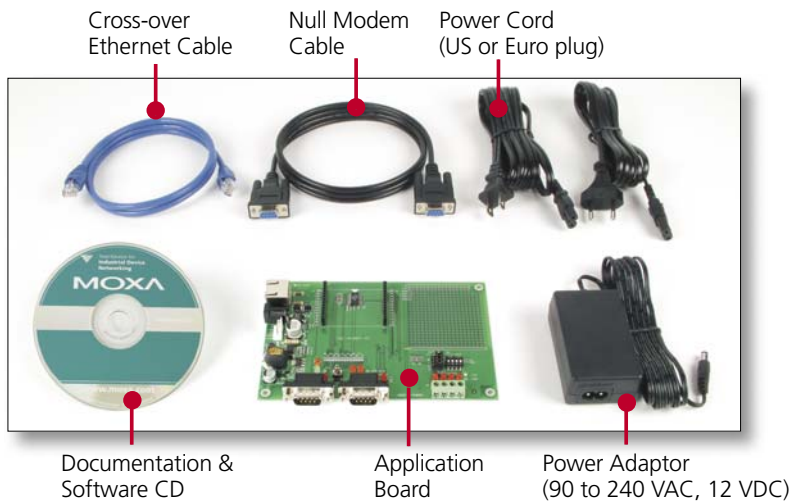


NE-4110A/4120A



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

### Get Going with Moxa's Starter Kit

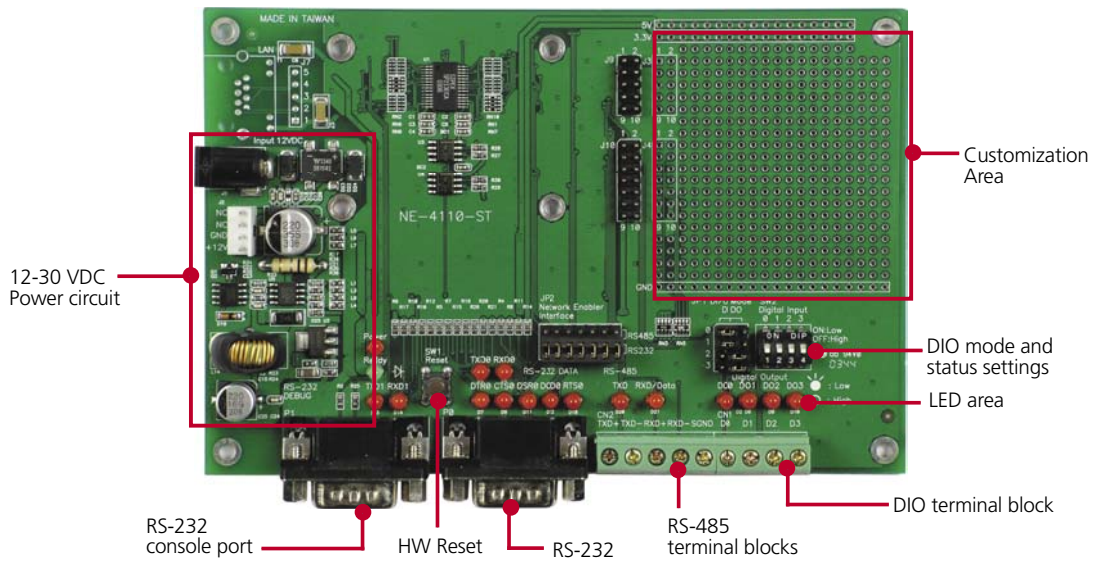


MOXA's Network Enabler Starter Kits, which include an evaluation board, power adaptor, Ethernet and serial cables, and software CD-ROM, let you evaluate all Network Enabler functions quickly and easily. The evaluation board is equipped with serial, Ethernet, digital I/O, and power circuits that help you evaluate the Network Enabler modules.

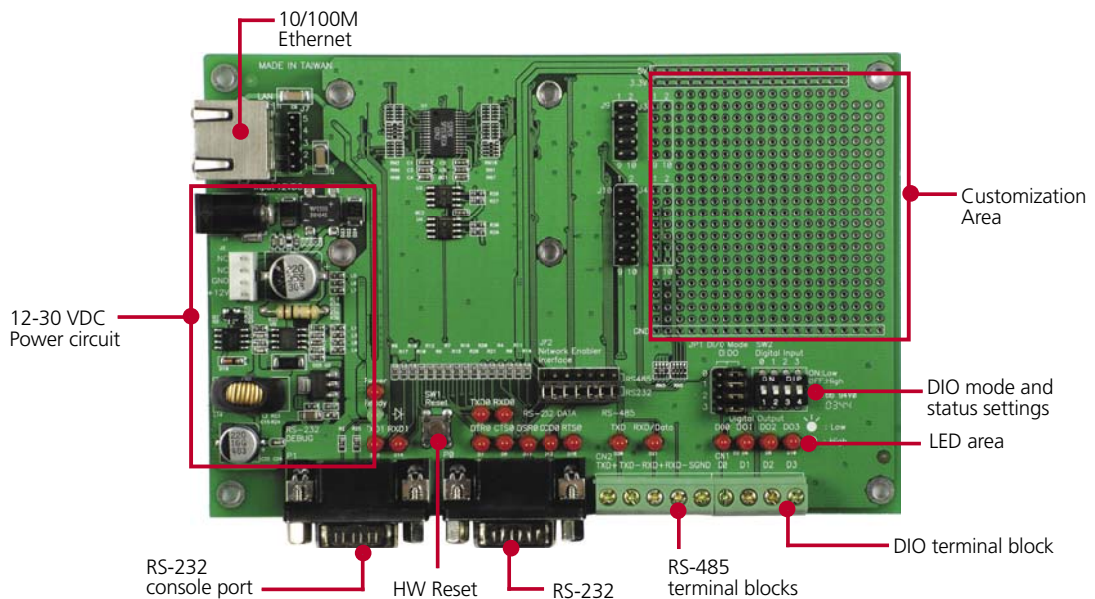
## How to Select the NE-4100 Series Starter Kit

| Starter Kit | NE-4100 Series Module |                      |                        |
|-------------|-----------------------|----------------------|------------------------|
|             | Standard Version      | Programmable Version | Serial Command Version |
| NE-4100-ST  | NE-4100T              | NE-4100T-P           | NE-4100T-CMD           |
| NE-4110-ST  | NE-4110S              | NE-4110S-P           | NE-4110S-CMD           |
|             | NE-4110A              | NE-4110A-P           | NE-4110A-CMD           |
| NE-4120-ST  | NE-4120S              | NE-4120S-P           | NE-4120S-CMD           |
|             | NE-4120A              | NE-4120A-P           | NE-4120A-CMD           |

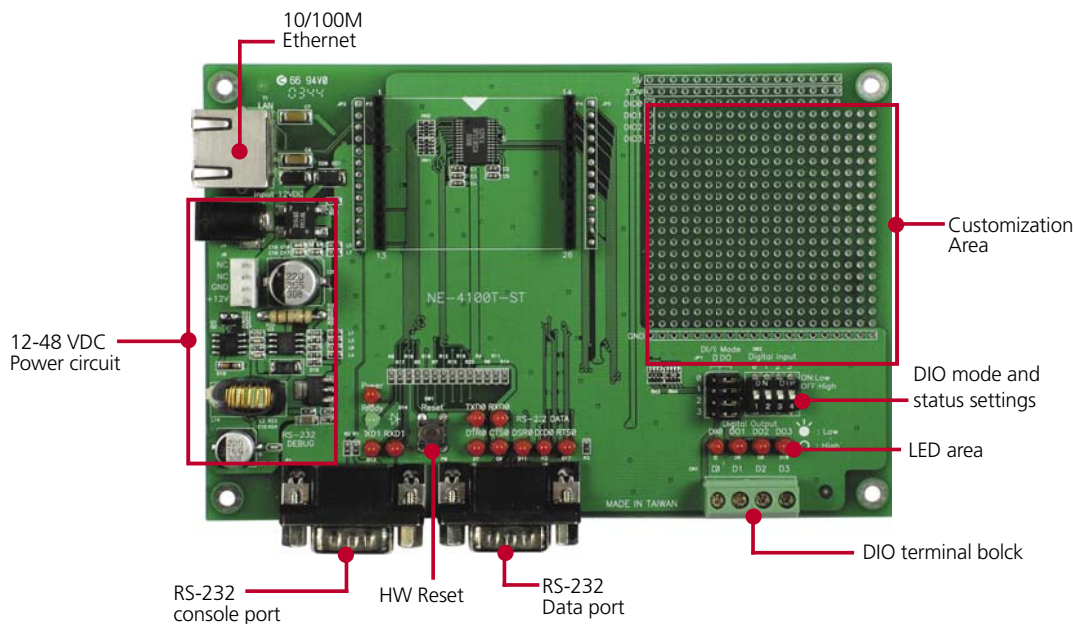
## NE-4110-ST Evaluation Board



## NE-4120-ST Evaluation Board



## NE-4100-ST Evaluation Board



## Ordering Information

- NE-4110S:** 100 Mbps Network Enabler for RS-232 devices, with RJ45 Ethernet connector
- NE-4110A:** 100 Mbps Network Enabler for RS-422/485 devices, with RJ45 Ethernet connector
- NE-4120S:** 100 Mbps Network Enabler for RS-232 devices, with 5-pin Ethernet pin header
- NE-4120A:** 100 Mbps Network Enabler for RS-422/485 devices, with 5-pin Ethernet pin header
- NE-4100T:** 100 Mbps Network Enabler for TTL devices, with DIL package
- NE-4110S-P:** Programmable Version, 100 Mbps Network Enabler for RS-232 devices, with RJ45 Ethernet connector
- NE-4110A-P:** Programmable Version, 100 Mbps Network Enabler for RS-422/485 devices, with RJ45 Ethernet connector
- NE-4120S-P:** Programmable Version, 100 Mbps Network Enabler for RS-232 devices, with 5-pin Ethernet pin header
- NE-4120A-P:** Programmable Version, 100 Mbps Network Enabler for RS-422/485 devices, with 5-pin Ethernet pin header
- NE-4100T-P:** Programmable Version, 100 Mbps Network Enabler for TTL devices, with DIL package
- NE-4110S-CMD:** Serial Command Version, 100 Mbps Network Enabler for RS-232 devices, with RJ45 Ethernet connector
- NE-4110A-CMD:** Serial Command Version, 100 Mbps Network Enabler for RS-422/485 devices, with RJ45 Ethernet connector
- NE-4120S-CMD:** Serial Command Version, 100 Mbps Network Enabler for RS-232 devices, with 5-pin Ethernet pin header
- NE-4120A-CMD:** Serial Command Version, 100 Mbps Network Enabler for RS-422/485 devices, with 5-pin Ethernet pin header
- NE-4100T-CMD:** Serial Command Version, 100 Mbps Network Enabler for TTL devices, with DIL package
- NE-4110-ST:** Starter Kit for NE-4110 Series
- NE-4120-ST:** Starter Kit for NE-4120 Series
- NE-4100-ST:** Starter Kit for NE-4100T Series