

# MiiNePort E2 Series

## 10/100 Mbps embedded serial device servers



- Smallest embedded device server on the market—only 29 x 17 x 12.6 mm
- Extremely low power consumption—only 140 mA @ 3.3 VDC or 92 mA @ 5 VDC
- Uses the MiiNe, Moxa's second generation SoC
- NetEZ technology makes integration incredibly easy
- Versatile choice of operation modes: Real COM, RFC2217, TCP, and UDP



### Overview

Moxa's MiiNePort E2 series embedded device servers are designed for manufacturers who want to add sophisticated network connectivity to their serial devices with minimal integration effort. The MiiNePort E2 is empowered by the MiiNe, Moxa's second generation SoC, which supports 10/100 Mbps Ethernet, up to 921.6 Kbps serial baudrate, a versatile selection of ready-to-use operation modes, and requires

only a small amount of power. By using Moxa's innovative NetEZ technology, the MiiNePort E2 can be used to convert any device with a standard serial interface to an Ethernet enabled device in no time. In addition, the MiiNePort E2 is the smallest embedded device server without an RJ45 connector, making it easy to fit into virtually any existing serial device.

### The MiiNe—Moxa's 2nd Generation SoC

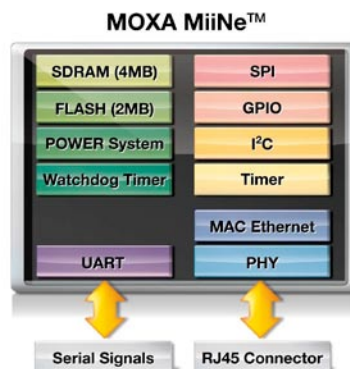


The MiiNe was created to provide manufacturers with a competitive embedded serial-to-Ethernet solution.

The MiiNePort E2, which uses the

MiiNe for its SoC, is one of the world's tiniest embedded device servers, and has the lowest power consumption of any similar product. The MiiNe has the following features:

- Designed for serial-to-Ethernet applications
- Uses an ARM core
- Uses Moxa's own advanced UART technology
- 2 MB Flash and 4 MB SDRAM memory built in

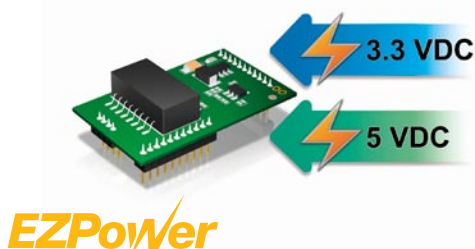


### NetEZ Technology

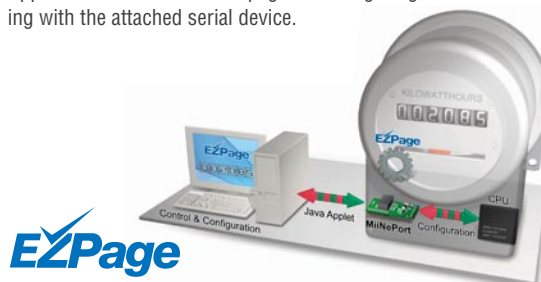


Moxa's NetEZ technology gives serial device manufacturers a range of powerful tools for integrating Ethernet capability into serial devices:

- **EZPower:** Need a module with a versatile system power input voltage? Use the MiiNePort E2's EZPower for 3.3 or 5 VDC system power input.



- **EZPage:** Need a module that allows direct communication with the attached serial device? Use the MiiNePort E2's EZPage with Java Applet to create a visual webpage for configuring and communicating with the attached serial device.

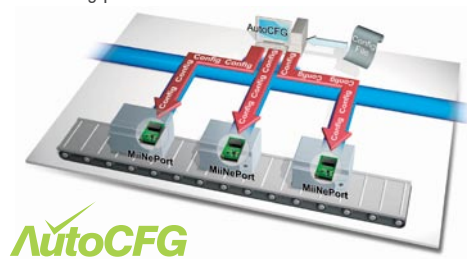


- **SCM:** Need an easy tool to configure the network through serial communication inside the device? Try MiiNePort's friendly SCM (Serial Command Mode).



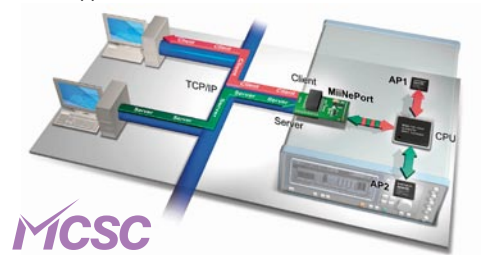
**SCM**

- **AutoCFG:** Tired of spending a large amount of time setting up the device's initial network configuration? Not anymore! The MiiNePort's AutoCFG makes auto-configuration during manufacturing possible.



**AutoCFG**

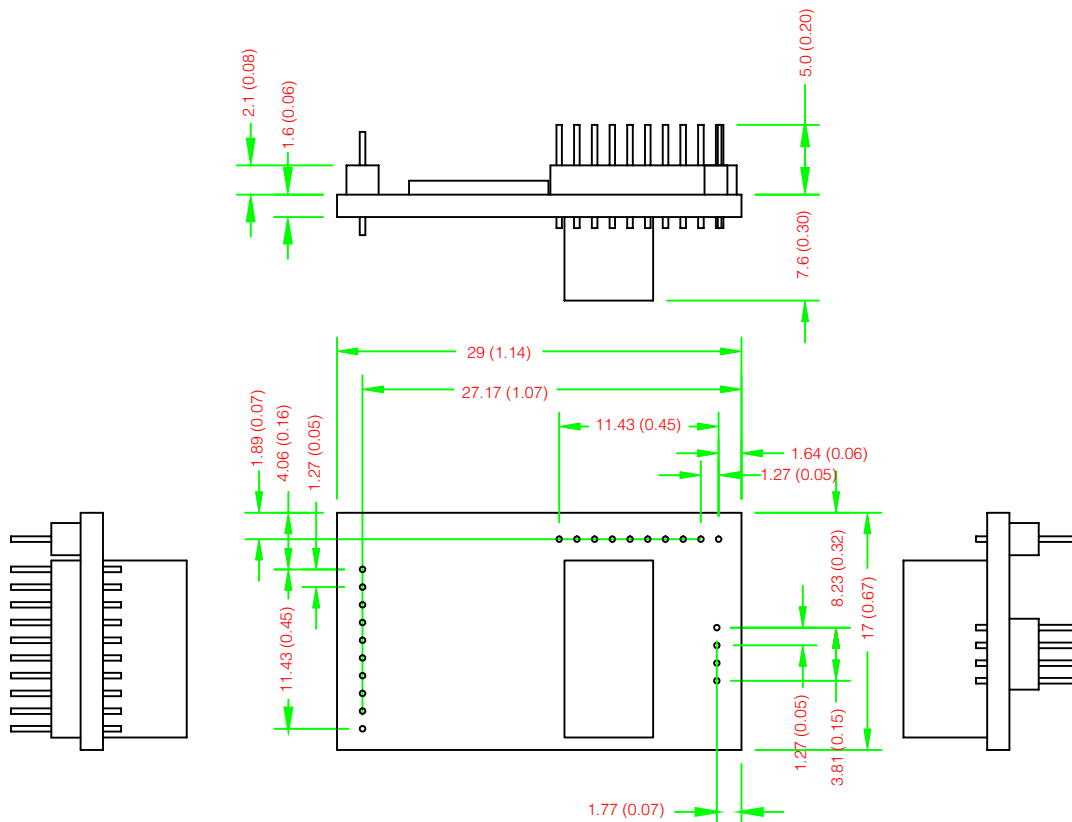
- **MCSC:** Ever wanted your device to be a server and client at the same time? The MiiNePort's MCSC (Multi-channel Serial Communication) provides dual connections and dual channels for multi-task applications!



**MCSC**

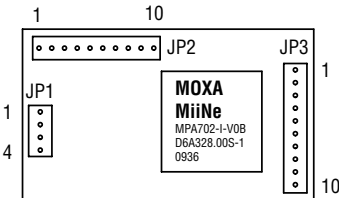
Moxa's NetEZ technology makes the MiiNePort E2 the world's most user-friendly embedded device server by promising ease-of-use with minimal integration work required.

### Dimensions [units: mm (in)]



## Pin Assignment

JP1			JP2			JP3		
Pin	Signal Name	Function	Pin	Signal Name	Function	Pin	Signal Name	Function
1	Ethernet Tx+	Ethernet Transmit Data+	1	100M LED	Ethernet 100M LED	1	DIO0	Programmable Input/Output
2	Ethernet Tx-	Ethernet Transmit Data-	2	10M LED	Ethernet 10M LED	2	DIO1	Programmable Input/Output
3	Ethernet Rx+	Ethernet Receive Data+	3	LRXD	Receive Serial Data	3	DIO2	Programmable Input/Output
4	Ethernet Rx-	Ethernet Receive Data-	4	LTXD	Transmit Serial Data	4	DIO3	Programmable Input/Output
			5	LDCD	Data Carrier Detect	5	Reserved	N/A
			6	RS485_EN	RS-485 Enable	6	Reserved	N/A
			7	LRTS	Request To Send	7	SW_Reset	Reset to Factory Default
			8	LDTR	Data Terminal Ready	8	GND	Circuit Ground
			9	LDSR	Data Set Ready	9	Ready LED	System is Ready LED
			10	LCTS	Clear To Send	10	VCC	Power Supply



## Specifications

### Form Factor

**Type:** Drop-in module  
**Dimensions:** 29 x 17 x 12.6 mm (1.14 x 0.67 x 0.50 in)  
**Weight:** 5 g

### System Information

**CPU:** 32-bit ARM Core  
**RAM:** 4 MB built in  
**Flash:** 2 MB built in

### Ethernet Interface

**Number of Ports:** 1  
**Speed:** 10/100 Mbps, auto MDI/MDIX

### Serial Interface

**Number of Ports:** 1  
**Transmission Format:** Standard TTL

### Serial Communication Parameters

**Data Bits:** 5, 6, 7, 8  
**Stop Bits:** 1, 1.5, 2  
**Parity:** None, Even, Odd, Space, Mark  
**Flow Control:** RTS/CTS, DTR/DSR, XON/XOFF  
**Baudrate:**

MiiNePort E2: 50 bps to 230.4 Kbps (supports non-standard baudrates)  
 MiiNePort E2-H: 50 bps to 921.6 Kbps (supports non-standard baudrates)

### Serial Signals

TTL: TxD, RxD, RTS, CTS, DTR, DSR, DCD, RST (reset circuit), GND

### Digital I/O Pins

**GPIO:** 4 programmable I/O pins

### Software

**Network Protocols:** ICMP, ARP, IP, TCP, UDP, DHCP, HTTP, SNMP, V1, SMTP, TFTP, Auto IP, Telnet, BOOTP

**Configuration Options:** Web Console, Serial Console (Serial Command Mode), 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, SVR 4.2, QNX 4.25, QNX 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, Ethernet Modem, RFC2217, MCSC

### Environmental Limits

**Operating Temperature:**  
 Standard Models: 0 to 55°C (32 to 131°F)  
 Wide Temp. Models: -40 to 85°C (-40 to 185°F)

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

**Storage Temperature:** -40 to 85°C (-40 to 185°F)

### Power Requirements

**Input Voltage:** 3.3 or 5 VDC (±5%)  
**Power Consumption:** 140 mA @ 3.3 VDC max., 92 mA @ 5 VDC input max.

### Regulatory Approvals

**FCC:** Part 15 Class B  
**EMS:** EN55022, EN55024, EN61000-3-2, EN61000-3-3, IEC61000-4-2, IEC61000-4-3, IEC61000-4-4, IEC61000-4-5, IEC61000-4-6, IEC61000-4-8, IEC61000-4-11

**Shock:** 500 g's for non-operational shock

**Vibration:** 20 g's for non-operational vibration

### Warranty

**Warranty Period:** 5 years  
**Details:** See [www.moxa.com/warranty](http://www.moxa.com/warranty)

## Ordering Information

### Available Modules

**MiiNePort E2:** Embedded device server for TTL devices, drop-in module, 10/100M without RJ45 connector, 50 bps to 230.4 Kbps baudrate, 0 to 55°C operating temperature  
**MiiNePort E2-H:** Embedded device server for TTL devices, drop-in module, 10/100M without RJ45 connector, 50 bps to 921.6 Kbps baudrate, 0 to 55°C operating temperature  
**MiiNePort E2-T:** Embedded device server for TTL devices, drop-in module, 10/100M without RJ45 connector, 50 bps to 230.4 Kbps baudrate, -40 to 85°C operating temperature  
**MiiNePort E2-H-T:** Embedded device server for TTL devices, drop-in module, 10/100M without RJ45 connector, 50 bps to 921.6 Kbps baudrate, -40 to 85°C operating temperature

### Available Starter Kits

**MiiNePort E2-ST:** Starter kit for the MiiNePort E2 Series, module included  
**MiiNePort E2-H-ST:** Starter kit for the MiiNePort E2-H Series, module included

### Package Checklist (modules)

- MiiNePort E2 Series module

### Package Checklist (starter kits)

- MiiNePort E2 module
- MiiNePort E2 evaluation board
- Universal power adaptor
- 2 power cords
- Null modem cable
- Cross-over Ethernet cable
- Document and Software CD
- Quick Installation Guide
- Warranty Card