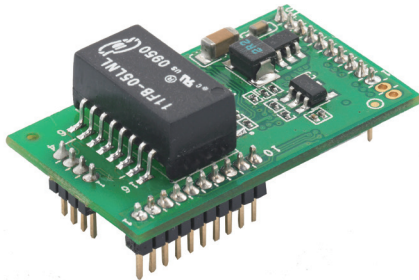


# MiiNePort E2 Series



## 10/100 Mbps embedded serial device servers



- > Smallest embedded device server available—only 29 x 17 x 12.6 mm
- > EZPower for 3.3 to 5 VDC system power input supported
- > Extremely low power consumption
- > Uses the MiiNe, Moxa's second generation SoC
- > Simple integration with NetEZ technology
- > Operation versatility with Real COM/TCP/UDP/RFC2217/MCSC



### Overview

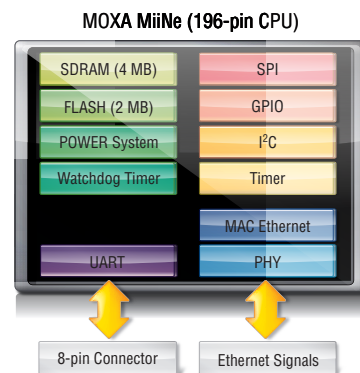
Moxa's MiiNePort E2 series embedded device servers are designed for manufacturers who want to add sophisticated network connectivity to their serial devices with minimal integration effort. The MiiNePort E2 is empowered by the MiiNe, Moxa's second generation SoC, which supports 10/100 Mbps Ethernet,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

modes, and requires a minimal amount of power. With Moxa's innovative NetEZ technology, the MiiNePort E2 can convert any device with a standard serial interface to an Ethernet-enabled device. 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

**MiiNe** 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 among similar products. The MiiNe's features include:

- Cost-effective serial-to-Ethernet conversions
- ARM core
- Advanced UART technology
- Internal 2 MB Flash and 4 MB SDRAM memory



### 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 (0.01 lb)

#### 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  
**Magnetic Isolation Protection:** 1.5 kV built-in

#### 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  
 MiiNePort E2-H: 50 bps to 921.6 kbps  
**Note:** Non-standard baudrates supported

#### Serial Signals

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

#### Digital I/O Pins

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

**Software**

**Network Protocols:** ICMP, ARP, IPv4, 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/2008/7/8/8.1/10 (x86/x64), Windows 2008 R2/2012/2012 R2 (x64), Windows Embedded CE 5.0/6.0, Windows XP Embedded

**Fixed TTY Drivers:** SCO Unix, SCO OpenServer, UnixWare 7, QNX 4.25, QNX 6, Solaris 10, FreeBSD, AIX 5.x, HP-UX 11i, Mac OS X

**Linux Real TTY Drivers:** Linux 2.4.x, 2.6.x, 3.x

**Operation Modes:** Real COM, TCP Server, TCP Client, UDP, Ethernet Modem, RFC2217, MCSC

**NetEZ Function:** EZPower, EZPage, SCM (Serial Command Mode), AutoCFG, MCSC (Multi-channel Serial Communication)

**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)

**Storage Temperature (package included):** -40 to 60°C (-40 to 140°F)

**Ambient Relative Humidity:** 5 to 95% (non-condensing)

**Power Requirements**

**Input Voltage:** 3.3 to 5 VDC

**Input Current:** 157 mA @ 3.3 VDC

**Standards and Certifications**

**EMC:** EN 55032/24

**EMI:** CISPR 32, FCC Part 15B Class B

**EMS:**

IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV

IEC 61000-4-3 RS: 80 MHz to 1 GHz: 3 V/m

IEC 61000-4-4 EFT: Power 1 kV; Signal 0.5 kV

IEC 61000-4-5 Surge: Power 2 kV; Signal: 0.5 kV

IEC 61000-4-6 CS: 150 kHz to 80 MHz: 3 V/m Signal: 3 V/m

IEC 61000-4-8 PFMF

IEC 61000-4-11

**Vibration:** IEC 60068-2-6, 5-25.7 Hz: ±15 mm; 25.7-500 Hz: 20g; 3 hours/axis

**Shock:** IEC 60068-2-27, 500g/2ms

**Drop:** IEC 60068-2-34

IEC 60068-2-32, ISTA-2A

**Reliability**

**MTBF (mean time between failures):**

Time: 5,696,350 hrs

Standard: Telcordia (Bellcore) SR-332

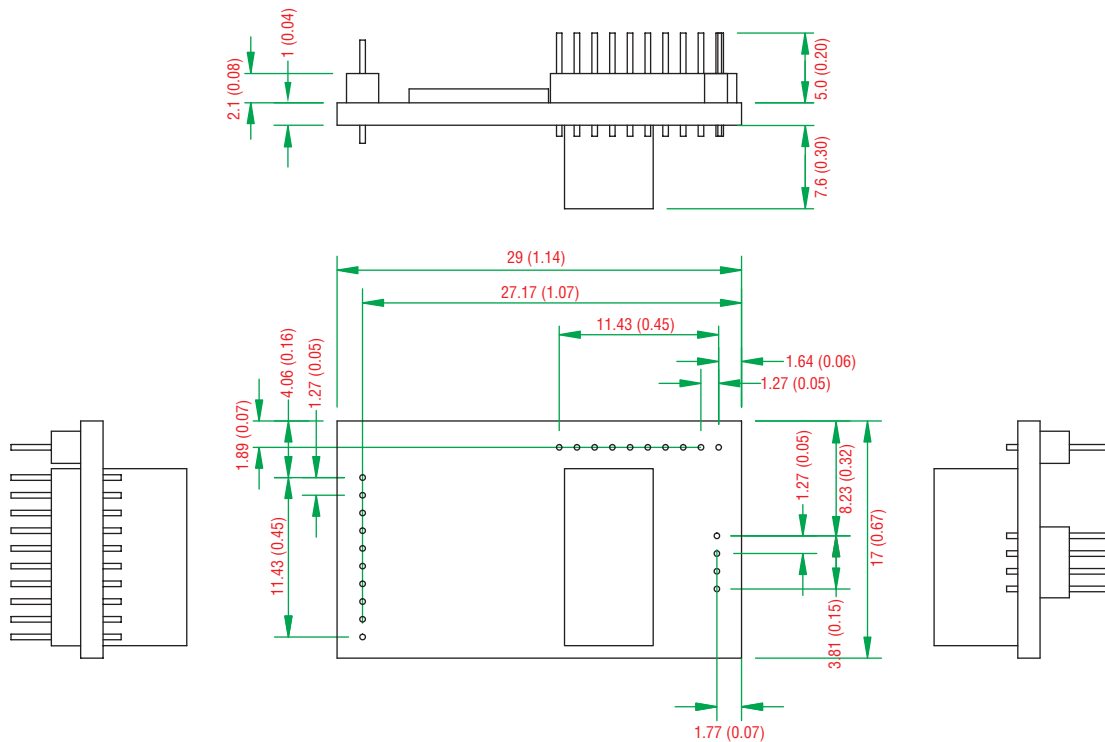
**Warranty**

**Warranty Period:** 5 years

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

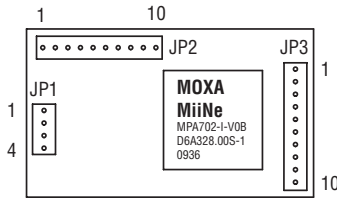
**Dimensions**

Unit: mm (inch)



## 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	DI00	Programmable Input/Output
2	Ethernet Tx-	Ethernet Transmit Data-	2	10M LED	Ethernet 10M LED	2	DI02	Programmable Input/Output
3	Ethernet Rx+	Ethernet Receive Data+	3	LRXD	Receive Serial Data	3	DI03	Programmable Input/Output
4	Ethernet Rx-	Ethernet Receive Data-	4	LTXD	Transmit Serial Data	4	DI01	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



## 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

### Optional Accessories (can be purchased separately)

**PWR-12125-DT-S1:** Desktop power supply (requires power cord), 12 VDC, 1.25 A, 100 to 240 VAC

**PWC-C7US-2B-183:** 10A/125V US power cord, 183 cm

**PWC-C7EU-2B-183:** 2.5A/250V Continental European (EU) power cord, 183 cm

**CBL-F9M9-150:** DB9 female to DB9 male serial cable, 150 cm

**CBL-RJ458P-100:** 8-pin RJ45 CAT5 Ethernet cable, 100 cm

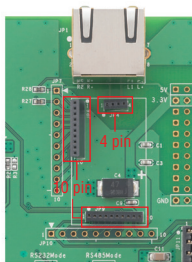
**Female Socket Connectors:** Includes one 1x4 DIP, two 1x10 DIP

### Package Checklist (modules)

- MiiNePort E2 module

### Package Checklist (starter kits)

- MiiNePort E2 module
- MiiNePort E2 evaluation board
- Universal power adapter
- Power Cord: PWC-C7US-2B-183
- Power Cord: PWC-C7EU-2B-183
- Serial Cable: CBL-F9M9-150
- Ethernet Cable: CBL-RJ458P-100
- Documentation and software CD
- Quick installation guide (printed)
- Warranty card



Female Socket Connectors