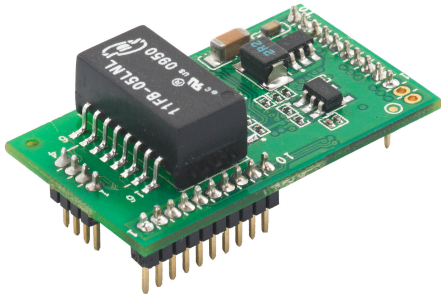# MiiNePort E2 Series

10/100 Mbps embedded serial device servers

Features and Benefits

- Smallest embedded device server available—only 29 x 17 x 12.6 mm
- Supports EZPower for 3.3 to 5 VDC system power input
- Green design with extremely low power consumption
- Uses Moxa's high-quality and reliable second-generation MiiNe SoC
- MiiNePort NetEZ technology makes integration incredibly easy
- Operation versatility with Real COM/TCP/UDP/RFC2217/MCSC
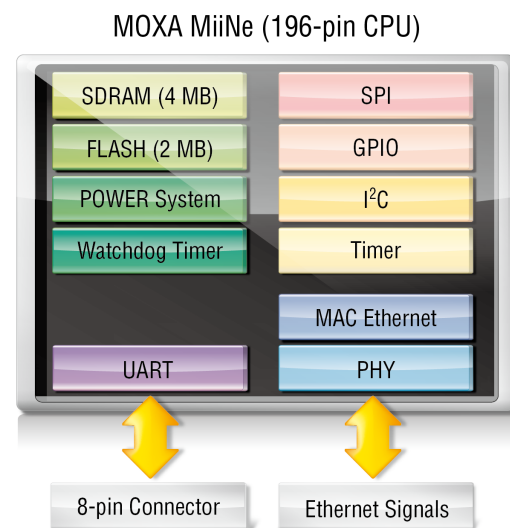
Certifications

CE FC

Introduction

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.

Moxa's Second-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 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

MOXA MiiNe (196-pin CPU)

SDRAM (4 MB)	SPI
FLASH (2 MB)	GPIO
POWER System	I²C
Watchdog Timer	Timer
	MAC Ethernet
UART	PHY

8-pin Connector   Ethernet Signals

Specifications

Embedded System

CPU	32-bit Arm Core

Memory

Flash	2 MB
SDRAM	4 MB

Input/Output Interface

Configurable DIO Channels (by software)	4

Ethernet Interface

10/100BaseT(X) Ports, Auto MDI/MDI-X	4-pin pin header
Magnetic Isolation Protection	1.5 kV (built-in)

Ethernet Software Features

Configuration Options	Web Console (HTTP), Windows Utility
Management	ARP, BOOTP, Device Search Utility (DSU), DHCP Client, IPv4, SMTP, SNMPv1, TCP/IP, Telnet, TFTP, UDP, ICMP
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
Linux Real TTY Drivers	Kernel version: 2.4.x, 2.6.x, 3.x, 4.x
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
Android API	Android 3.1.x and later

Serial Interface

No. of Ports	1
Serial Standards	TTL
Operation Modes	Real COM mode, TCP Server mode, TCP Client mode, UDP mode, RFC2217 mode, Ethernet Modem mode, MCSC mode
Baudrate	MiiNePort E2 Series: 50 bps to 230.4 kbps MiiNePort E2-H Series: 50 bps to 921.6 kbps
Data Bits	5, 6, 7, 8
Stop Bits	1, 1.5, 2
Parity	None, Even, Odd, Space, Mark
Flow Control	None, RTS/CTS, DTR/DSR, XON/XOFF

Serial Signals

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

NetEZ Technology

NetEZ Functions	EZPower, EZPage, SCM (Serial Command Mode), AutoCFG, MCSC (Multi-Channel Serial Communication)

Power Parameters

Input Current	157 mA @ 3.3 VDC
Input Voltage	3.3 to 5 VDC

Physical Characteristics

Dimensions	MiiNePort E2/E2-H Series: 29 x 17 x 12.6 mm (1.14 x 0.67 x 0.50 in)
Weight	MiiNePort E2/E2-H Series: 5 g (0.01 lb) MiiNePort E2-ST/E2-H-ST: 77 g (0.17 lb)
Form Factor Type	Drop-in modules

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)

Standards and Certifications

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 DIPs
Environmental Testing	IEC 60068-2-1 IEC 60068-2-1 IEC 60068-2-3
EMC	EN 55032/24
EMI	CISPR 32, FCC Part 15B Class B
Shock	IEC 60068-2-27
Vibration	IEC 60068-2-6

Declaration

Green Product	RoHS, CRoHS, WEEE

MTBF

Time	5,696,350 hrs
Standards	Telcordia SR332

Warranty

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

Package Contents

Device	1 x MiiNePort E2 Series device server
Cable	1 x Ethernet, crossover cable (-ST models) 1 x null modem serial cable (-ST models)
Power Supply	1 x power adapter, universal (-ST models) 1 x power cord, EU type (-ST models) 1 x power cord, US type (-ST models)
Documentation	1 x document and software CD (-ST models) 1 x quick installation guide (-ST models) 1 x warranty card (-ST models)

Dimensions

Unit: mm (inch)
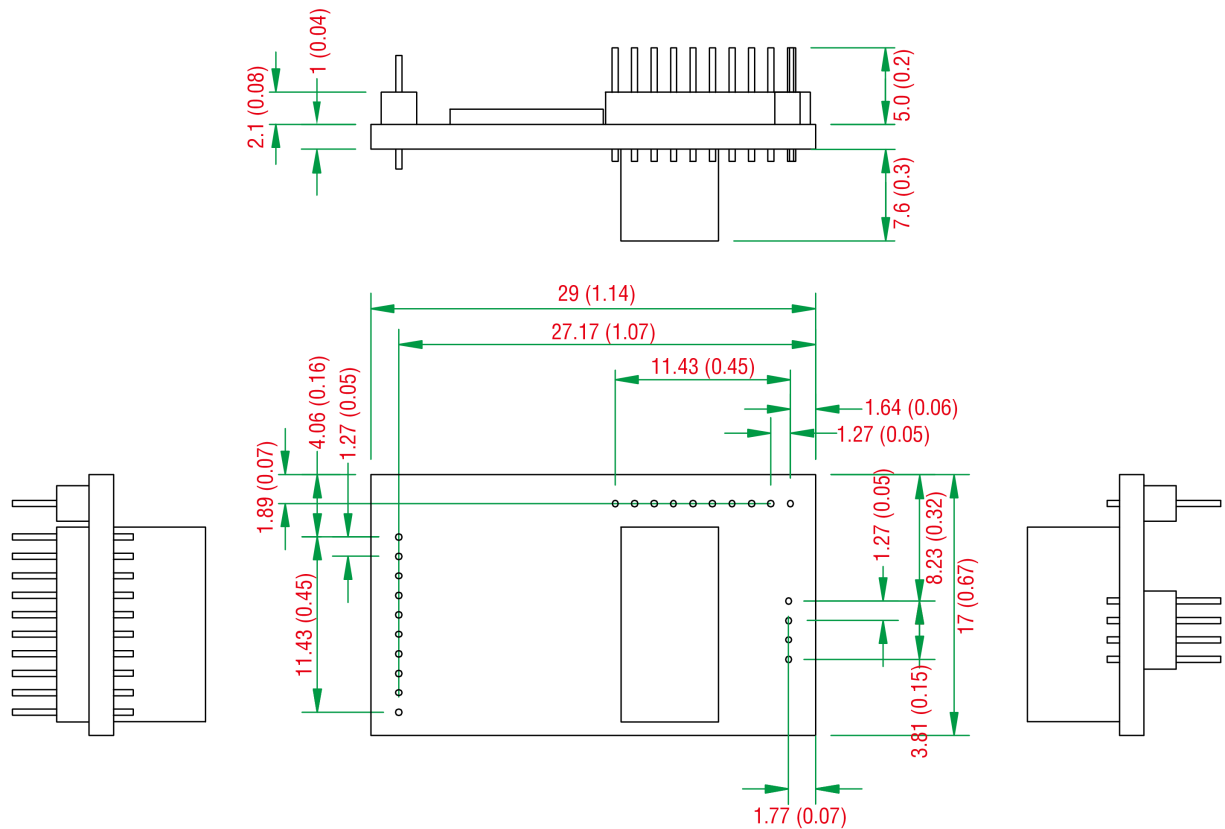
Ordering Information

Model Name	No. of Serial Ports	Supported Baudrates	Operating Temp.	With MiiNePort E2	With Evaluation Board
MiiNePort E2	1	50 bps to 230.4 kbps	0 to 55°C	✓	–
MiiNePort E2-H	1	50 bps to 921.6 kbps	0 to 55°C	✓	–
MiiNePort E2-T	1	50 bps to 230.4 kbps	-40 to 85°C	✓	–
MiiNePort E2-H-T	1	50 bps to 921.6 kbps	-40 to 85°C	✓	–
MiiNePort E2-ST	1	50 bps to 230.4 kbps	0 to 55°C	✓	✓
MiiNePort E2-H-ST	1	50 bps to 921.6 kbps	0 to 55°C	✓	✓

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