MiiNePort E3 Series

10/100 Mbps embedded drop-in module serial device servers with PoE pass-through support

Features and Benefits

- Use Moxa's high-quality and reliable second-generation MiiNe SoC
- Variety of operation modes fulfill specific application requirements
- Green design with extremely low power consumption
- MiiNePort NetEZ technology makes integration incredibly easy
- Highly compact embedded device module

Certifications
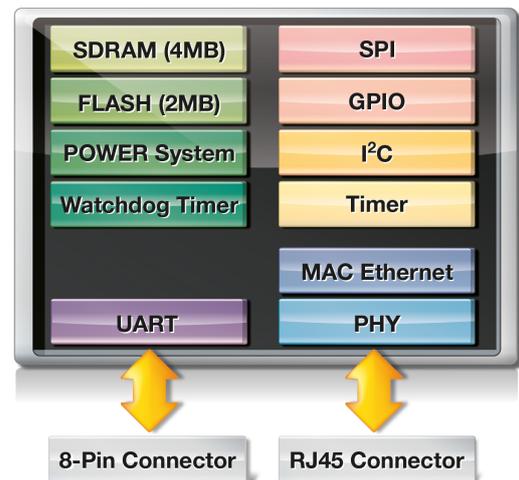
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Introduction

Moxa's MiiNePort E3 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 E3 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 E3 can be used to convert any device with a standard serial interface to an Ethernet-enabled device in no time. In addition, the MiiNePort E3 is a compact embedded device server with 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 E3, which uses the MiiNe for its SoC, is a compact embedded device server that has the lowest power consumption among similar products. 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

MOXA MiiNe

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

8-Pin Connector   RJ45 Connector

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

Magnetic Isolation Protection	1.5 kV (built-in)
PoE Pass-through	IEEE 802.3af for PoE
10/100BaseT(X) Ports, Auto MDI/MDI-X	8-pin RJ45

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 11, 10, 8.1, 8, 7, Vista, XP, ME, 98 and 95 Windows Server 2022, 2019, 2016, 2012 R2, 2012, 2008 R2, 2008, 2003, 2000 and NT Windows Embedded CE 5.0 and 6.0, Windows XP Embedded
Linux Real TTY Drivers	Kernel versions: 6.x, 5.x, 4.x, 3.x, 2.6.x and 2.4.x
Fixed TTY Drivers	macOS versions: 14, 13, 12, 11 and 10.1x SCO UNIX, SCO OpenServer, UnixWare 7, QNX 4.25, QNX 6, Solaris 10, FreeBSD, AIX 5.x, HP-UX 11i, Mac OS X
Virtual Machine	VMWare ESXi (Windows 11 / 10) VMware Fusion (Windows on macOS 14, 13, 12, 11 and 10.1x) Parallels Desktop (Windows on macOS 14, 13, 12, 11 and 10.1x)
Arm®-based Platform Support	Windows 11 Linux Kernel 6.x, 5.x and 4.x macOS 14, 13, 12 and 11
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
Baudrate	MiiNePort E3 Series: 50 bps to 230.4 kbps MiiNePort E3-H Series: 50 bps to 921.6 kbps
Data Bits	5, 6, 7, 8
Stop Bits	1, 1.5, 2

MOXA®
Reliable Networks ▲ Sincere Service

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

Power Parameters

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

Physical Characteristics

Dimensions	MiiNePort E3/E3-H Series: 35 x 52.5 x 18 mm (1.38 x 2.07 x 0.71 in)
Weight	MiiNePort E3/E3-H Series: 12 g (0.03 lb) MiiNePort E3-ST/E3-H-ST: 89 g (0.20 lb)

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

EMC	EN 55032/24
EMI	CISPR 32, FCC Part 15B Class B
EMS	IEC 61000-4-2 ESD: Contact: 4 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 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
Environmental Testing	IEC 60068-2-1 IEC 60068-2-3
Shock	IEC 60068-2-27
Vibration	IEC 60068-2-6
Freefall	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 E3 Series device server
Cable	1 x Ethernet, crossover (-ST models) 1 x null modem serial (-ST models)

Dimensions

Unit: mm (inch)
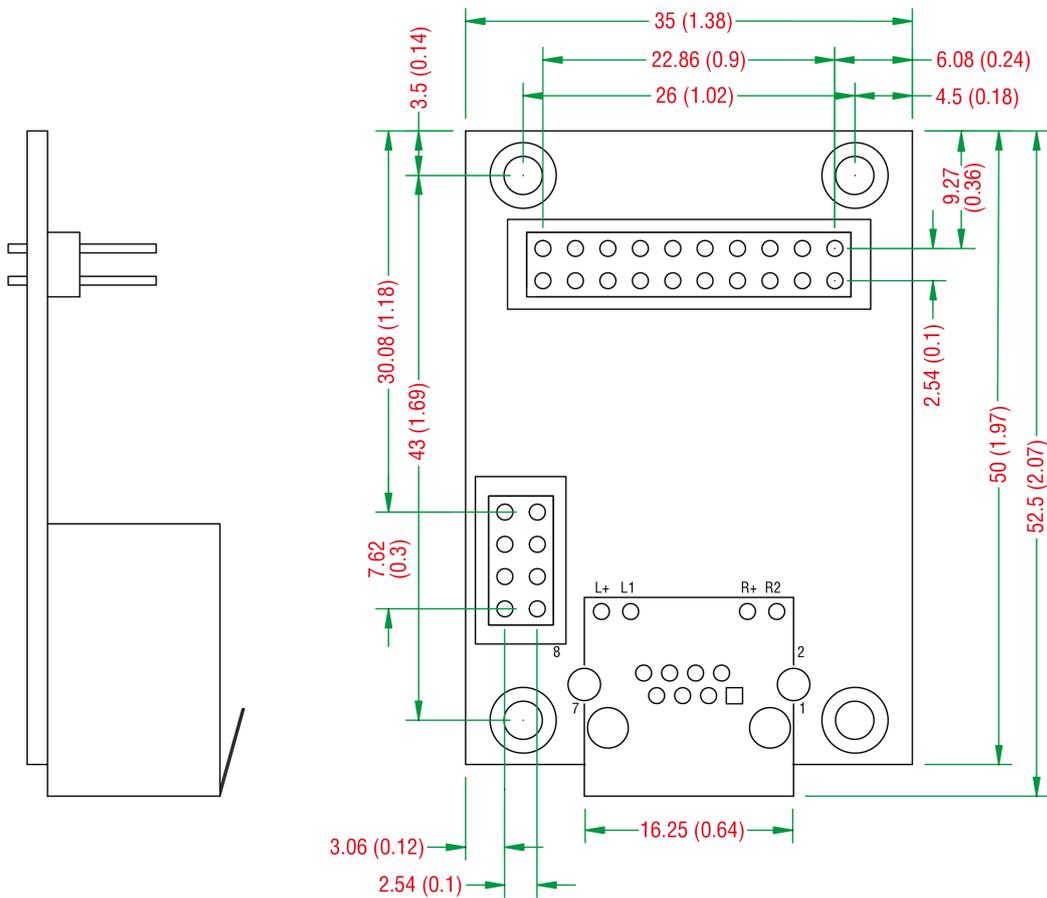
Ordering Information

Model Name	No. of Serial Ports	Supported Baudrates	Operating Temp.	With Evaluation Board
MiiNePort E3	1	50 bps to 230.4 kbps	0 to 55°C	–
MiiNePort E3-H	1	50 bps to 921.6 kbps	0 to 55°C	–
MiiNePort E3-T	1	50 bps to 230.4 kbps	-40 to 85°C	–
MiiNePort E3-H-T	1	50 bps to 921.6 kbps	-40 to 85°C	–

Model Name	No. of Serial Ports	Supported Baudrates	Operating Temp.	With Evaluation Board
MiiNePort E3-ST	1	50 bps to 230.4 kbps	0 to 55°C	✓
MiiNePort E3-H-ST	1	50 bps to 921.6 kbps	0 to 55°C	✓

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