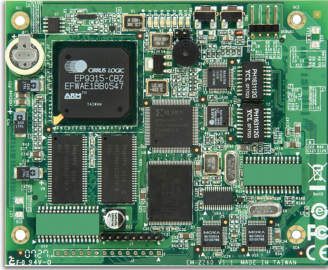# EM-2260 Series

*Arm-based 200 MHz industrial computer-on-module with 2 LAN ports, 4 serial ports, 8 DIs, 8 DOs, 1 VGA port*

### Features and Benefits

- Cirrus Logic EP9315 Arm9 CPU, 200 MHz

- 128 MB RAM onboard, 32 MB flash disk

- Graphical user interface for external VGA output connection

- 2 kV optically isolated RS-232/422/485 serial ports

- Dual 10/100 Mbps Ethernet ports for network redundancy

- 8 DI and 8 DO channels

- Supports CompactFlash and USB 2.0 hosts

- Ready-to-run WinCE 6.0 platform

- Full-function development kit for quick evaluation and application development

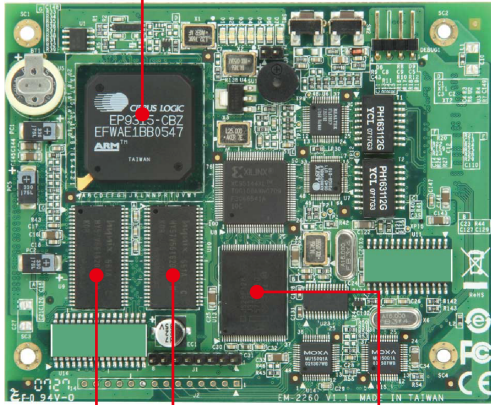### Certifications

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## Introduction

The EM-2260 embedded module features 4 RS-232/422/485 serial ports, dual Ethernet ports, and an Enhanced Integrated Drive Electronic (EIDE) interface for designing an external storage connection, such as a CompactFlash socket or USB port signals. The module has a compact design that is easily integrated with a variety of industrial applications, including gas stations, vending machines, and ticketing machines, and offers a powerful serial communication capability for better system integration. Programmers will find the preinstalled, ready-to-run Windows CE 6.0 platform and full-function development kit a great benefit when developing software and building reliable communication bases for industrial automation applications.

The EM-2260 embedded module uses the Cirrus Logic EP9315 Arm9, 32-bit, 200 MHz RISC CPU. This powerful computing engine supports several useful communication functions, but will not generate a lot of heat. The built-in 32 MB NOR Flash ROM and 128 MB SDRAM give you enough memory to run your application software directly on the EM-2260. With its built-in VGA output interface, the EM-2260 is suitable for use with SCADA systems in industrial applications, such as manufacturing automation, production line process monitoring, and mining automation, that require VGA and HMI features.

The EM-2260 Development Kit provides users with a handy tool for first-time evaluation to test the functionality of the embedded core module. It has several peripherals built-in, including RS-232/422/485 ports and digital input and output, making it suitable for developing a variety of industrial applications.
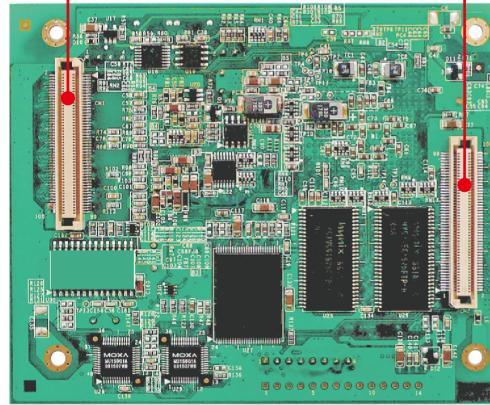
# Appearance

Cirrus Logic EP9315 ARM9 CPU          CN1          CN2

Onboard 128 MB RAM    Onboard 32 MB Flash

# Specifications

### Computer

| | |
|---|---|
| CPU | Cirrus EP9315 Arm9, 200 MHz |
| SDRAM | 128 MB |
| Flash | NOR Flash, 32 MB |
| Pre-installed OS | EM-2260-LX: µCLinux<br>EM-2260-CE: Microsoft Windows CE 6.0 |

### Digital Inputs

| | |
|---|---|
| Digital Input Channels | DIs x 8 |
| Input Voltage | 3.3 V, CMOS level |

### Digital Outputs

| | |
|---|---|
| Digital Output Channels | DOs x 8 |
| Digital Output | 3.3 V, CMOS level |

### Ethernet Interface

| | |
|---|---|
| Ethernet Ports | Auto-sensing 10/100 Mbps ports (RJ45 connector) x 2 |
| Magnetic Isolation Protection | 1.5 kV (built-in) |

### Display

| | |
|---|---|
| Resolution | 1024 x 768 |

### Serial Interface

| | |
|---|---|
| Serial Ports | 4 x RS-232/422/485 |

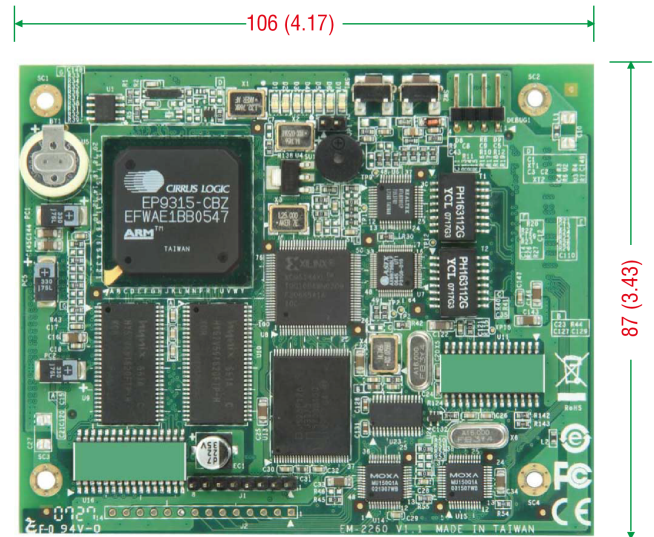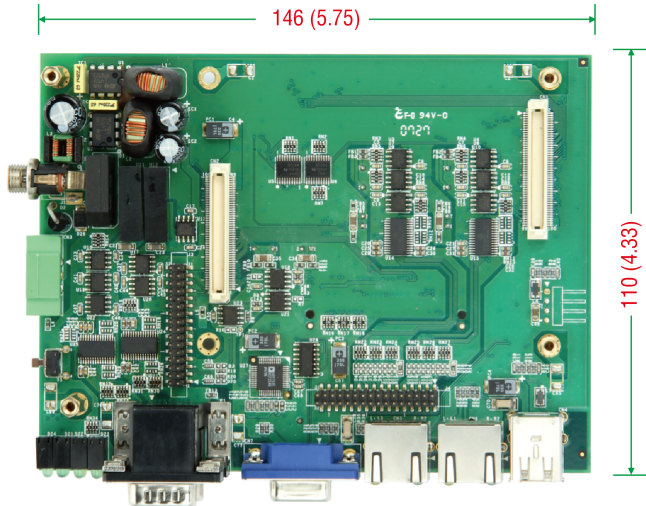### Serial Signals

| | |
|---|---|
| Console Port | 1 x 4-pin header to DB9 console port |
| Data Bits | 5, 6, 7, 8 |
| Stop Bits | 1, 1.5, 2 |
| Parity | None, Even, Odd, Space, Mark |

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| | |
|---|---|
| Flow Control | RTS/CTS, XON/XOFF, ADDC® (automatic data direction control) for RS-485, RTS Toggle (RS-232 only) |
| Baudrate | 50 bps to 921.6 kbps |
| RS-232 | TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND |
| RS-422 | Tx+, Tx-, Rx+, Rx-, GND |
| RS-485-4w | Tx+, Tx-, Rx+, Rx-, GND |

## Power Parameters

| | |
|---|---|
| Input Voltage | 12 VDC |
| Input Current | 480 mA @ 12 VAC |
| Power Consumption | 5.8 W |

## Reliability

| | |
|---|---|
| Alert Tools | Built-in buzzer and RTC (real-time clock) |
| Automatic Reboot Trigger | Built-in WDT |

## Physical Characteristics

| | |
|---|---|
| Dimensions | 106 x 87 mm (4.17 x 3.43 in) |
| Weight | 70 g (0.16 lb) |

## Environmental Limits

| | |
|---|---|
| Operating Temperature | -10 to 60°C (14 to 140°F) |
| Storage Temperature (package included) | -20 to 80°C (-4 to -176°F) |

## Standards and Certifications

| | |
|---|---|
| EMC | EN 55032/24, EN 61000-3-2 Class A, EN 61000-3-3, CISPR 32, FCC Part 15B Class A |
| Green Product | RoHS, CRoHS, WEEE |

## MTBF

| | |
|---|---|
| Time | 131,832 hrs |
| Standards | Telcordia (Bellcore) Standard |

## Warranty

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

# Dimensions

Unit: mm (inch)



## Ordering Information

| Model Name | Description |
|---|---|
| EM-2260-CE | Arm-based embedded core module with 4 serial ports, 8 x DI and 8 DO channels, 2 Ethernet ports, VGA, CompactFlash, USB, WinCE 6.0 OS |
| EM-2260-LX | Arm-based embedded core module with 4 serial ports, 8 x DI and 8 DO channels, 2 Ethernet ports, VGA, CompactFlash, USB, Linux OS |

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