

EM-1220 Series

Arm-based industrial computer-on-module with 2 serial ports and 2 LAN ports



Features and Benefits

- MOXA ART Arm9 32-bit 192 MHz processor
- 16 MB RAM, 8 MB flash disk onboard
- 2 software-selectable RS-232/422/485 serial ports
- Dual 10/100 Mbps Ethernet ports for network redundancy
- SD signals supported for external SD slot connection
- Built-in RTC, buzzer
- 10 GPIOs reserved for system integration
- Ready-to-run μ Clinux kernel 2.6 platform
- Full-function development kit for quick evaluation and application development
- -40 to 75°C wide-temperature models available

Certifications

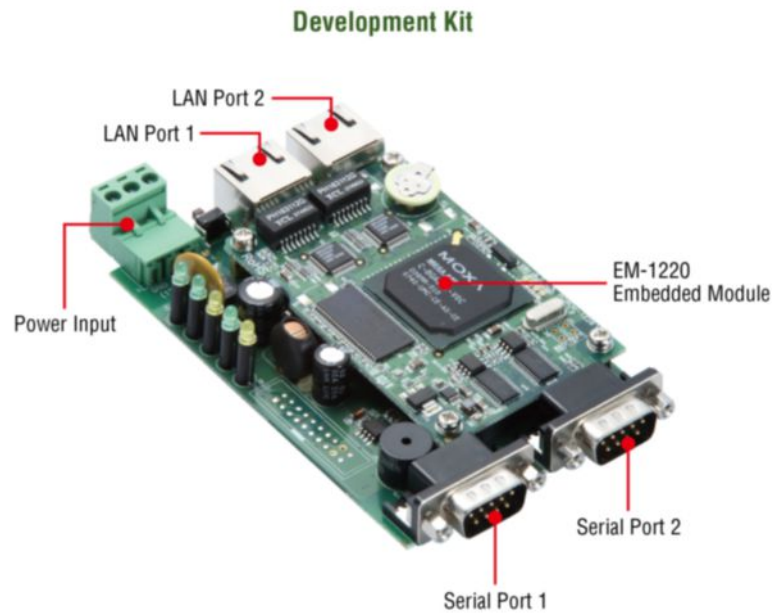
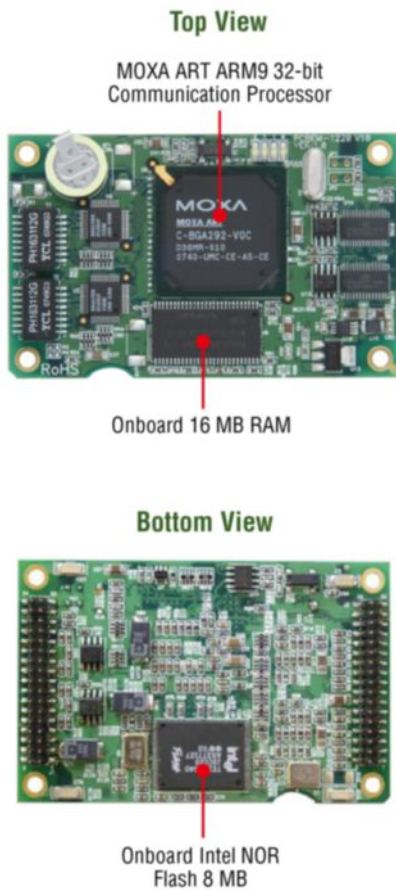


Introduction

The EM-1220 embedded module features 2 RS-232/422/485 serial ports, dual Ethernet ports, and an SD slot for external storage expansion. The module has a compact design that can be easily integrated with industrial applications such as gas stations, vending machines, and ticketing machines, and offers a powerful serial communication capability for better system integration.

Programmers will find that the preinstalled, ready-to-run μ Clinux platform and the full-function development kit make it easy to develop software and build a reliable communication base for industrial automation applications. In addition, a wide-temperature model is also available to provide a reliable solution for harsh environments.

Appearance



Specifications

Computer

CPU	MOXA ART Arm9, 192 MHz
SDRAM	16 MB
Flash	NOR Flash, 8 MB
Pre-installed OS	µCLinux
Storage Slot	SD slots x 1

Ethernet Interface

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

LED Indicators

System	System Ready x 1
Serial	2 per port (Tx, Rx)

Serial Interface

Serial Ports	2 x RS-232/422/485
Console Port	1 x 4-pin header to DB9 console port

Serial Signals

Data Bits	5, 6, 7, 8
Stop Bits	1, 1.5, 2
Parity	None, Even, Odd, Space, Mark
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
RS-485-2w	Data+, Data-, GND

Power Parameters

Input Voltage	3.3 VDC
Input Current	625 mA @ 3.3 VAC
Power Consumption	2.1 W

Reliability

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

Physical Characteristics

Dimensions	EM-1220 Module: 80 x 50 mm (3.15 x 1.97 in) EM-1220 Development Kit: 117 x 70 mm (4.61 x 2.76 in)
Weight	EM-1220 Module: 40 g (0.09 lb) EM-1220 Development Kit: 120 g (0.27 lb)

Environmental Limits

Operating Temperature	EM-1220-LX: -10 to 60°C (14 to 140°F) EM-1220-T-LX: -40 to 75°C (-40 to 167°F)
Storage Temperature (package included)	EM-1220-LX: -20 to 80°C (-4 to 176°F) EM-1220-T-LX: -40 to 85°C (-40 to 185°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	405,735 hrs
Standards	Telcordia (Bellcore) Standard

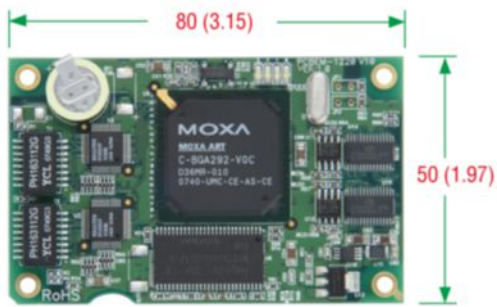
Warranty

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

Dimensions

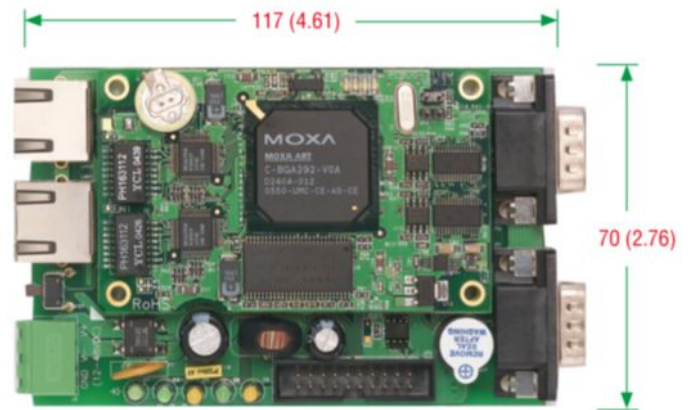
EM-1220

Unit: mm (inch)



EM-1220-DK

Unit: mm (inch)



Ordering Information

Model Name	Description	Operating Temp.
EM-1220-LX	Arm-based embedded core module with 2 serial ports, dual LAN ports, SD slot, μ Clinix OS, -10 to 60°C operating temperature	-10 to 60°C
EM-1220-T-LX	Arm-based embedded core module with 2 serial ports, dual LAN ports, SD slot, μ Clinix OS, -40 to 75°C operating temperature	-40 to 75°C

© Moxa Inc. All rights reserved. Updated Nov 12, 2018.

This document and any portion thereof may not be reproduced or used in any manner whatsoever without the express written permission of Moxa Inc. Product specifications subject to change without notice. Visit our website for the most up-to-date product information.