EM-1220 Series

Arm-based 192 MHz industrial computer-on-module with 2 LAN ports and 2 serial 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 µClinux 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 µClinux 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

Top View

MOXA ART ARM9 32-bit Communication Processor



Onboard 16 MB RAM

Bottom View



Development Kit LAN Port 2 LAN Port 1 EM-1220 Embedded Module Power Input Serial Port 2 Serial Port 1

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	



Data Bits 8	5, 6, 7, 8	
Stop Bits 7	1, 1.5, 2	
Parity 1	None, Even, Odd, Space, Mark	
	RTS/CTS, XON/XOFF, ADDC $^{\mbox{\ensuremath{\mathbb{R}}}}$ (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 6	625 mA @ 3.3 VAC	
Power Consumption 2	2.1 W	
Reliability		
Alert Tools	Built-in buzzer and RTC (real-time clock)	
Automatic Reboot Trigger	Built-in WDT	
Physical Characteristics		
	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)	
	EM-1220 Module: 40 g (0.09 lb) EM-1220 Development Kit: 120 g (0.27 lb)	
Environmental Limits		
	EM-1220-LX: -10 to 60°C (14 to 140°F) EM-1220-T-LX: -40 to 75°C (-40 to 167°F)	
	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	



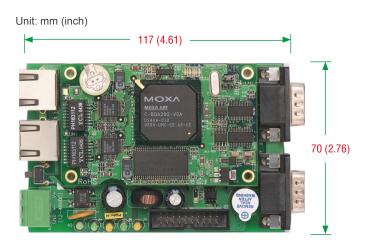
Dimensions

EM-1220

Unit: mm (inch)



EM-1220-DK



Ordering Information

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

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