MC-1200 Series

Ultra-compact rugged edge computers with Intel® Core™ i7 processor, designed for IIoT, AI, and machine learning applications

Features and Benefits

- 3 Mini-PCIe sockets for Wi-Fi, 3G, LTE, GPS, and mSATA expansion modules

- 7th Gen Intel® Core™ processor (Kaby Lake U)

- 2 built-in DDR4 memory slots; total capacity up to 32 GB

- Built-in TPM 2.0 module

- Variety of interfaces: 2 serial ports, 2 Giga LANs, 3 USB 3.0 (type A) ports

Certifications

c(UL)us
LISTED

Introduction

The MC-1200 Series computers are built around a 7th Gen Intel® Celeron® or Intel® Core™ i3, i5, or i7 processor and come with 1 HDMI display port, 3 USB 3.0 ports, 2 gigabit LAN ports, and 2 3-in-1 RS-232/422/485 serial ports. The MC-1200 is equipped with a 2.5" HDD/SSD slot and a built-in TPM 2.0 module.

Additional value and convenience is provided through a modular design with three independent slots for flexible system integration and expansion. Users have the option to add a variety of different communications modules, including Wi-Fi, 3G, LTE, GPS, and mSATA expansion modules.

With UL Class 1 Division 2 compliance, the MC-1200 is sure to deliver stable and reliable system operation for oil and gas applications. Class 1 Division 2 (C1D2) is a certification issued to products that allow them to be used in potentially hazardous environments. Examples of hazardous work settings include locations where flammable or explosive gasses, certain chemicals, airborne fibers, or vapors could be excessive under abnormal circumstances.
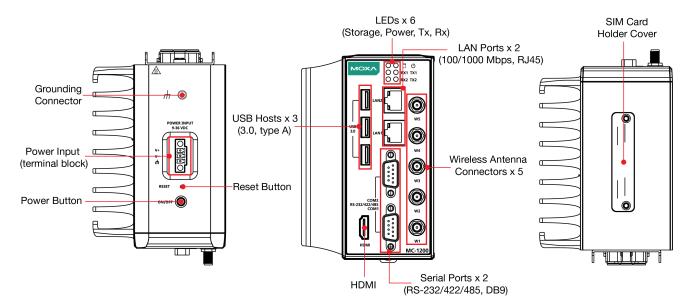
The MC-1200 is designed to operate reliably in extreme conditions, such as continuous exposure to low or high temperatures, humidity, high vibration, and power surges, making them perfect for heavy industry, solar grid, water/wastewater, oil and gas, and transportation applications.

Proactive Monitoring Function

Moxa Proactive Monitoring is a small-footprint, resource-friendly, easy-to-use utility that allows users to track a number of system parameters. Users can view the current parameter values for these key parts by simply clicking on the icons corresponding to the parameters in the user interface. User-defined key part indicators (KPIs) are used to monitor the computer's key parts. Visible and/or audio alerts are triggered automatically via relay and SNMP traps when these KPIs exceed their preset threshold values, making it extremely convenient for operators to avoid system downtime by setting up predictive maintenance tasks well in advance.

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Appearance

Left panel (side view):
- Grounding Connector
- Power Input (terminal block)
- Power Button
- POWER INPUT 9-36 VDC
- V+ V-
- RESET
- ON/OFF
- Reset Button

Center panel (front view):
- LEDs x 6 (Storage, Power, Tx, Rx)
- LAN Ports x 2 (100/1000 Mbps, RJ45)
- USB Hosts x 3 (3.0, type A)
- Wireless Antenna Connectors x 5
- HDMI
- Serial Ports x 2 (RS-232/422/485, DB9)
- MOXA
- LAN2, LAN1, USB 3.0
- RX1 TX1, RX2 TX2
- W5, W4, W3, W2, W1
- COM2 RS-232/422/485 COM1
- HDMI
- MC-1200

Right panel (side view):
- SIM Card Holder Cover

Specifications

Computer

CPU	MC-1220-KL7-T-S: Intel® Core™ i7-7600U Processor (4M Cache, up to 3.90 GHz) MC-1220-KL5-T-S: Intel® Core™ i5-7300U Processor (3M Cache, up to 3.50 GHz) MC-1220-KL1-T-S: Intel® Celeron® Processor 3965U (2M Cache, 2.20 GHz) MC-1220-KL5-T: Intel® Core™ i5-7300U Processor (3M Cache, up to 3.50 GHz)
Storage Slot	mSATA slots x 1, SATA 3.0, internal mini-PCIe socket
System Memory Slot	SODIMM DDR4 slot x 2, up to 32 GB max.
Supported OS	Linux Debian 9, 64-bit, kernel 4.9 (optional via CTOS) Windows 10 Enterprise LTSC 1809 64-bit (optional via CTOS)
Graphics Controller	MC-1220-KL7-T-S: Intel® HD Graphics 620 MC-1220-KL5-T-S: Intel® HD Graphics 620 MC-1220-KL1-T-S: Intel® HD Graphics 610 MC-1220-KL5-T: Intel® HD Graphics 620

Computer Interface

Video Input	HDMI x 1, up to 3840 x 2160 resolution at 30 Hz
USB 3.0	USB 3.0 hosts x 3, type-A connectors
Buttons	Reset button

Serial Interface

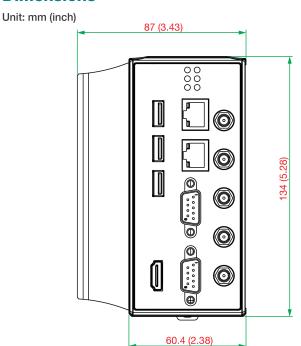|	
Connector	DB9 male
Serial Standards	RS-232/422/485 (software selectable)
Serial Ports	2 x RS-232/422/485
Flow Control	RTS/CTS, XON/XOFF
Baudrate	50 bps to 115.2 kbps
ESD Protection	4 kV contact, 8 kV air

Ethernet Interface

Magnetic Isolation Protection	1.5 kV (built-in)
10/100/1000BaseT(X) Ports (RJ45 connector)	2

LED Indicators

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

Serial Signals

RS-232	TxD, RxD, RTS, CTS, GND
RS-485-4w	Tx+, Tx-, Rx+, Rx-, GND
RS-422	Tx+, Tx-, Rx+, Rx-, GND
RS-485-2w	Data+, Data-, GND

Physical Characteristics

Installation	Wall mounting (with optional kit), DIN-rail mounting
Housing	Metal
Dimensions	134 x 60.4 x 120 mm (5.28 x 2.38 x 4.72 in)
Weight	Product only: 1.40 kg (0.63 lb)

Declaration

Green Product	RoHS, CRoHS, WEEE

Power Parameters

Power Button	ON/OFF (rear panel) Reset button
Input Voltage	9 to 36 VDC
Input Current	8 A @ 9 VDC, 2 A @ 36 VDC
Power Consumption	72 W

Environmental Limits

Storage Temperature	-40 to 75°C (-40 to 167°F)
Operating Temperature	-40 to 70°C (-40 to 158°F)
Ambient Relative Humidity	5 to 95% (non-condensing)
Shock	IEC 60068-2-27

Standards and Certifications

Safety	UL 60950-1, UL 62368-1, EN 60950-1, EN 62368-1
EMC	EN 55032/35, CISPR 32, FCC Part 15B Class A

Reliability

Alert Tools	Built-in RTC (real-time clock) with lithium battery backup

MTBF

Time	510,913 hrs

Warranty

Warranty Period	3 years
Details	See www.moxa.com/warranty

Package Contents

Device	1 x MC-1200 Series computer
Installation Kit	1 x DIN-rail kit
Documentation	1 x quick installation guide 1 x warranty card

Dimensions

Unit: mm (inch)

Ordering Information

Model Name	CPU	Memory	TPM 2.0	Optional OS Storage (mSATA)	LAN/Serial Ports	SSD/HDD Slots	USB 3.0 Ports	Interface Expansion	Operating Temp
MC-1220-KL7-T-S	Intel® Core™ i7-7600U	8 GB	✓	16 GB	2/2	1	3	3 x mPCIe	-40 to 70°C
MC-1220-KL5-T-S	Intel® Core™ i5-7300U	8 GB	✓	16 GB	2/2	1	3	3 x mPCIe	-40 to 70°C
MC-1220-KL1-T-S	Intel® Celeron® 3965U	8 GB	✓	16 GB	2/2	1	3	3 x mPCIe	-40 to 70°C
MC-1220-KL5-T	Intel® Core™ i5-7300U	8 GB	–	16 GB	2/2	1	3	3 x mPCIe	-40 to 70°C

Accessories (sold separately)

Wi-Fi Wireless Modules

Wi-Fi-BGN(252NI)	Wi-Fi module, 2 antennas with cable and connector, 2 black screws, 2 lock washers, 2 nuts, 1 thermal pad

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