

UC-1200A Series

Arm Cortex-A53 dual-core 64-bit 1 GHz Industrial Computers with 1 mPCIe expansion slot, -40 to 60°C operating temperature



Features and Benefits

- Armv8 Cortex-A53 dual-core 1 GHz processor
- 2 auto-sensing 10/100/1000 Mbps Ethernet ports
- Rich set of programmable LEDs and a programmable button for easy installation and maintenance
- Moxa Industrial Linux with 10-year superior long-term support
- Compliance with IEC 62443-4-2 Security Level 2 requirements
- -40 to 60°C operating temperature range

Certifications

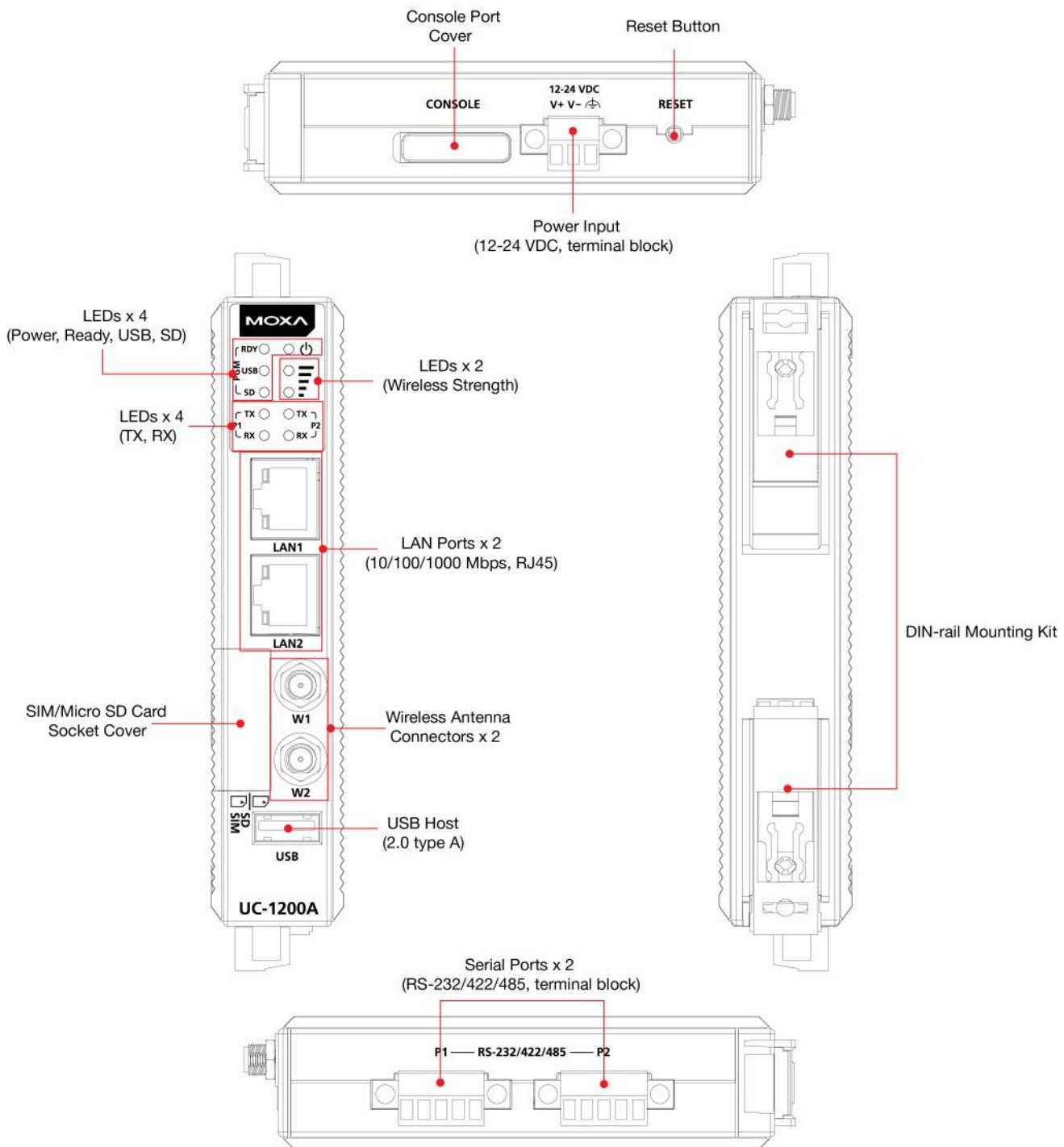


Introduction

The UC-1200A computing platform is designed for embedded data-acquisition applications. The computer comes with dual RS-232/422/485 serial ports and dual 10/100/1000 Mbps Ethernet ports. These versatile capabilities let users efficiently adapt the UC-1200A to a variety of complex communications solutions.

The UC-1200A is built around a Cortex-A53 processor that has been optimized for use in energy monitoring systems, but is widely applicable to a variety of industrial solutions. With flexible interfacing options, this tiny embedded computer is a reliable and secure gateway for data acquisition and processing at field sites as well as a useful communications platform for many other large-scale deployments.

Appearance



Specifications

Computer

CPU	Arm v8 Cortex-A53 dual-core 1 GHz
DRAM	2 GB DDR4
Pre-installed OS	Moxa Industrial Linux (Debian 11, kernel 5.10), 2031 EOL See www.moxa.com/MIL
Storage Pre-installed	16 GB eMMC
Storage Slot	micro SD slots x 1

Computer Interface

Ethernet Ports	Auto-sensing 10/100/1000 Mbps ports (RJ45 connector) x 2
Serial Ports	RS-232/422/485 ports x 2 (software-selectable, terminal-block connector)
USB 2.0	USB 2.0 hosts x 1, type-A connectors
Console Port	RS-232 (TxD, RxD, GND), 4-pin header output (115200, n, 8, 1)
Expansion Slots	mPCIe slots x 1
Number of SIMs	1
SIM Format	Nano
Buttons	Reset button
TPM	TPM v2.0

Ethernet Interface

Ethernet Ports	Auto-sensing 10/100/1000 Mbps ports (RJ45 connector) x 2
Magnetic Isolation Protection	1.5 kV (built-in)

Serial Interface

Baudrate	300 bps to 921.6 kbps
Data Bits	5, 6, 7, 8
Parity	None, Even, Odd, Space, Mark
Stop Bits	1, 1.5, 2
Flow Control	RTS/CTS XON/XOFF Automatic Data Direction Control (ADDC) for RS-485 RTS Toggle (RS-232 only)

Serial Signals

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

LED Indicators

System	Power x 1 SW ready (programmable) USB (programmable) x 1 Micro SD slot (programmable) x 1 Serial Port: TX x 2, RX x 2
Wireless Signal Strength	Cellular x 2; programmable Disconnected: None Very Poor Signal: 1 LED (blinking) Poor Signal: 1 LED Good Signal: 2 LEDs

Power Parameters

Input Current	600 mA @ 12 VDC 300 mA @ 24 VDC
Input Voltage	12 to 24 VDC
Power Consumption	4.5 W (minimum; without external USB device attached) 7.2 W (maximum; with external USB device attached)

Reliability

Alert Tools	External RTC (real-time clock) External WDT (watchdog timer)
-------------	---

Physical Characteristics

Housing	Polycarbonate (PC)
IP Rating	IP30
Dimensions	101 x 27 x 128 mm (3.98 x 1.06 x 5.04 in)
Weight	224 g (0.5 lb)
Installation	DIN-rail mounting Wall mounting (with optional kit)

Environmental Limits

Operating Temperature	-40 to 60°C (-40 to 140°F)
Storage Temperature	-40 to 85°C (-40 to 185°F)
Ambient Relative Humidity	5 to 95% (non-condensing)
Shock	IEC 60068-2-27
Vibration	2 Grms @ IEC 60068-2-64, random wave, 5-500 Hz, 1 hr per axis (without USB devices attached)

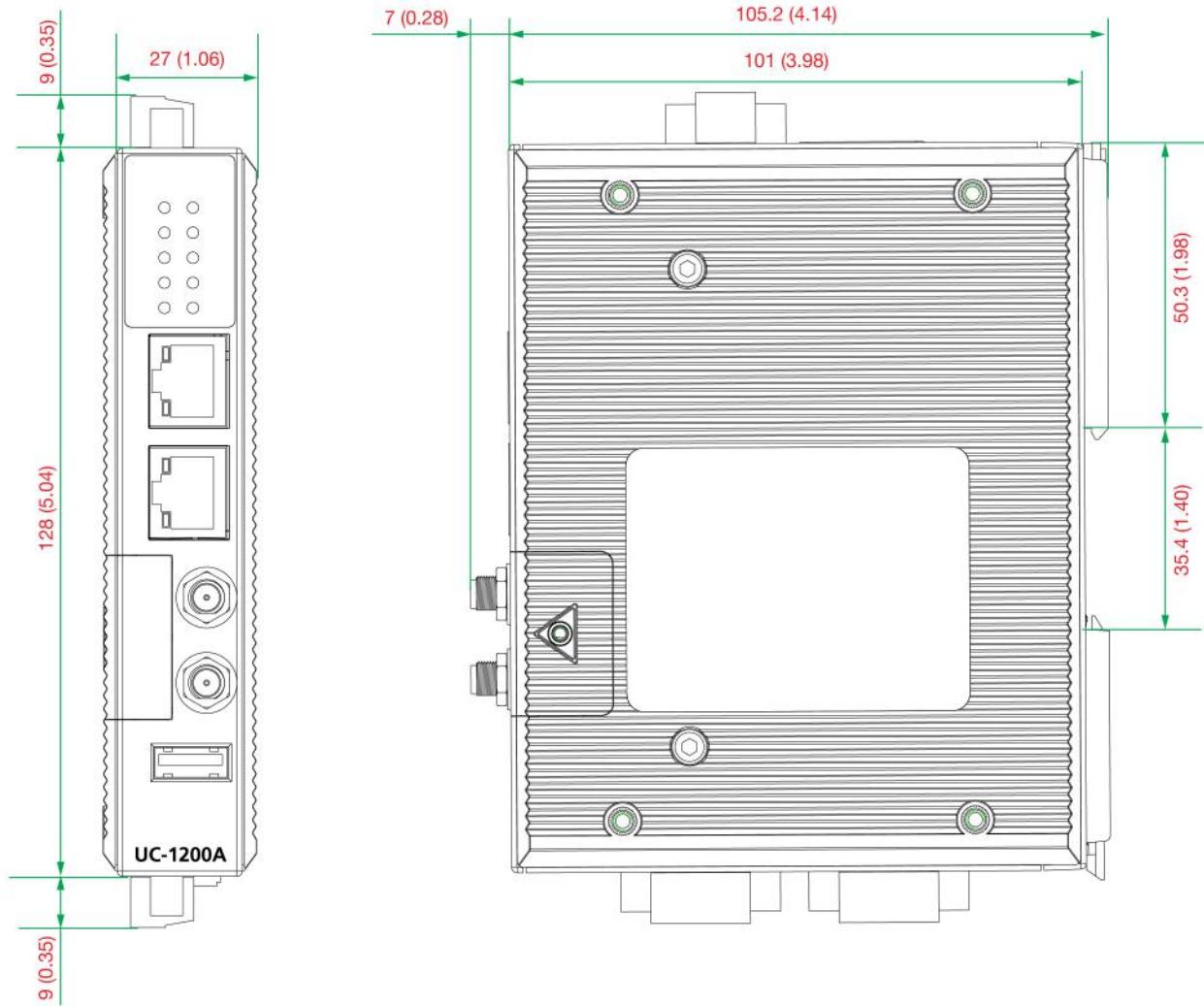
Standards and Certifications

EMC	EN 55032/35 EN 61000-6-2/-6-4 UKCA RCM KC BSMI
EMI	FCC Part 15B Class A ICES-003 Class A EN 55032 Class A EN 61000-6-4 Class A
EMS	IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV IEC 61000-4-3 RS: 80 MHz to 1 GHz: 10 V/m IEC 61000-4-3 RS: 1.4 GHz to 6 GHz: 3 V/m IEC 61000-4-4 EFT: Power: 1 kV; Signal: 1 kV IEC 61000-4-5 L-PE: 1 kV ; L-L: 0.5 kV; Signal: 1 kV IEC 61000-4-6 CS: 10 V IEC 61000-4-8 PFMF
Safety	EN 62368-1 UL 62368-1
Hazardous Locations	ATEX Class I Division 2

International Approval	UKCA RCM FCC CE ISED KC BSMI
Green Product	RoHS, CRoHS, WEEE
MTBF	
Time	924,676 hrs
Standards	Telcordia (Bellcore) Standard TR/SR
Warranty	
Warranty Period	5 years
Details	See www.moxa.com/warranty
Package Contents	
Device	1 x UC-1200A Series computer
Documentation	1 x quick installation guide 1 x warranty card

Dimensions

Unit: mm (inch)



Ordering Information

Model Name	CPU	OS	Storage	Wireless	Operating Temperature
UC-1222A	Armv8 Cortex-A53 dual core, 1 GHz	Default: MIL3 Standard Order MIL3 Secure through UC-1200A (CTO)	16 GB eMMC	mPCIe slot x 1, reserved	-40 to 60°C

Accessories (sold separately)

Power Adapters

PWR-12150-USJP-SA-T	Locking barrel plug, 12 VDC 1.5 A, 100 to 240 VAC, US/JP plug, -40 to 75°C operating temperature
PWR-12150-CN-SA-T	Locking barrel plug, 12 VDC, 1.5 A, 100 to 240 VAC, CN plug, -40 to 75°C operating temperature
PWR-12150-AU-SA-T	Locking barrel plug, 12 VDC, 1.5 A, 100 to 240 VAC, AU plug, -40 to 75°C operating temperature
PWR-12150-EU-SA-T	Locking barrel plug, 12 VDC, 1.5 A, 100 to 240 VAC, EU plug, -40 to 75°C operating temperature
PWR-12150-UK-SA-T	Locking barrel plug, 12 VDC, 1.5 A, 100 to 240 VAC, UK plug, -40 to 75°C operating temperature

Cables

CBL-F9DPF1x4-BK-100	Console cable with 4-pin connector, 1 m
---------------------	---

CBL-PJTB-10

Non-locking barrel plug to bare-wire cable

Antennas

ANT-WDB-ARM-0202	2 dBi at 2.4 GHz or 2 dBi at 5 GHz, RP-SMA (male), dual-band, omnidirectional antenna
ANT-LTE-ASM-05 BK	704-960/1710-2620 MHz, LTE stick antenna, 5 dBi
ANT-LTEUS-ASM-01	GSM/GPRS/EDGE/UMTS/HSPA/LTE, 1 dBi, omnidirectional rubber-duck antenna
ANT-LTE-OSM-06-3m BK MIMO	Multiband antenna with screw-fastened mounting option for 700-2700/2400-2500/5150-5850 MHz frequencies
ANT-5G-OSM-04	4 dBi LTE/5G NR dipole antenna with SMA (male) connector
ANT-GPS-CSM-04-3m BK	20 dBi at 1575 to 1605 MHz, SMA (male), right-hand circular polarization (RHCP), active GPS antenna, 3-meter cable

Wireless Antenna Cables

A-CRF-SMIF-100	Wireless antenna cable package with 2 100-cm cables (SMA connectors)
----------------	--

Wall-Mounting Kits

WK-33-01	Wall-mounting kit with 2 plates (98.6 x 33.8 x 5 mm), 4 TMS M3 4-mm screws
----------	--

© Moxa Inc. All rights reserved. Updated May 09, 2025.

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.