

UC-8410A Series

Arm Cortex-A7 dual-core 1 GHz IIoT gateway with 1 expansion slot for a wireless module, 3 LAN ports, 8 serial ports, 4 DIs, 4 DOs



Features and Benefits

- Freescale LS1021A Cortex-A7 1 GHz dual-core processor
- 1 GB DDR3 SDRAM
- 8 RS-232/422/485 serial ports
- 3 10/100/1000 Mbps Ethernet ports
- Wireless-enabled with PCIe mini slot
- 2 USB 2.0 hosts for mass storage devices
- Wall-mounting installation
- Robust, fanless design
- -40 to 75°C wide-temperature model available
- Long-term Linux support until 2027; includes bug fixes and security patches

Certifications



Introduction

The UC-8410A Series embedded computers support a rich collection of communication interfaces, including 8 RS-232/422/485 serial ports, 3 Ethernet ports, 1 PCIe mini slot for a wireless module, 4 digital input channels, 4 digital output channels, 1 mSATA slot, and 2 USB 2.0 hosts.

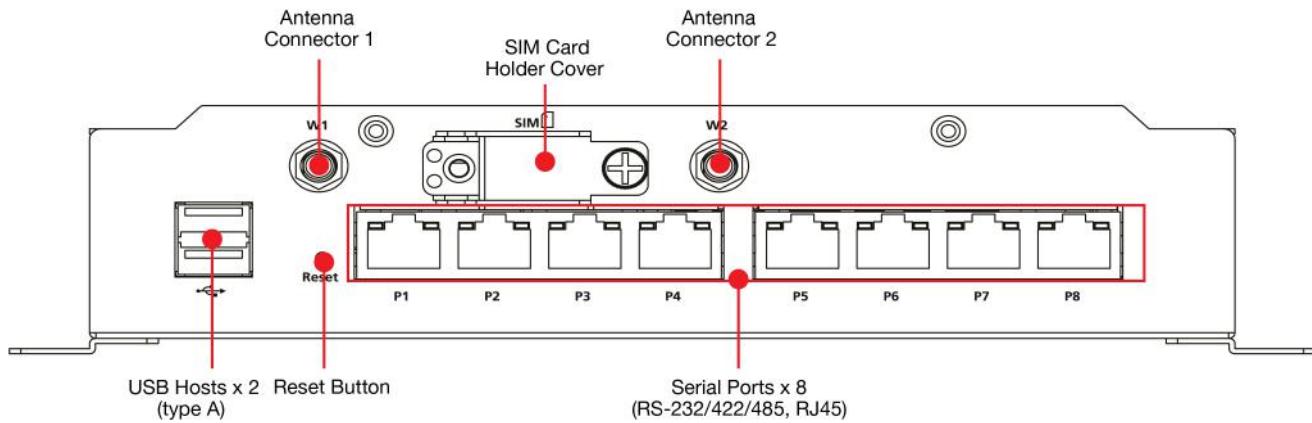
The UC-8410A computer uses the Freescale Cortex-A7 dual-core 1 GHz RISC CPU. This powerful computing engine supports several useful communications functions, without generating too much heat. The built-in 8 GB eMMC card and 1 GB DDR3 SDRAM give you enough memory to run your application software, and the mSATA slot provides the flexibility of adding additional data storage.

The UC-8410A computers come with a variety of communication interfaces, including serial ports, Ethernet ports, wireless communication slot, and digital input/output channels, making them ideal as communication platforms for industrial applications that require network and device communications.

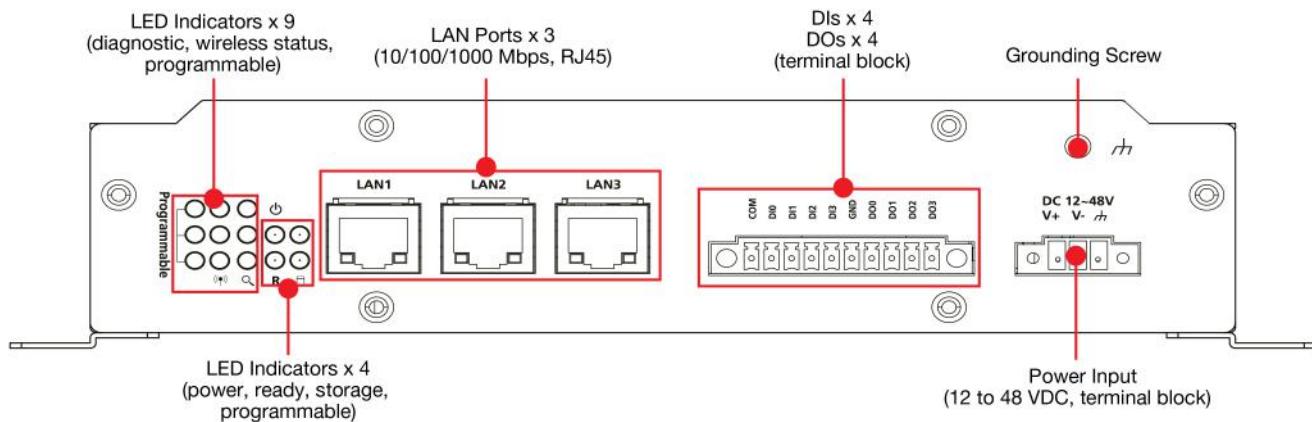
The UC-8410A Series comes with Linux Debian 8 preinstalled to provide an open software operating system for software program development. This makes the UC-8410A computer an optimal solution for use with industrial applications, but at minimal cost and effort. In addition to the standard model of the UC-8410A, a -40 to 75°C wide-temperature model is available for harsh industrial environments.

Appearance

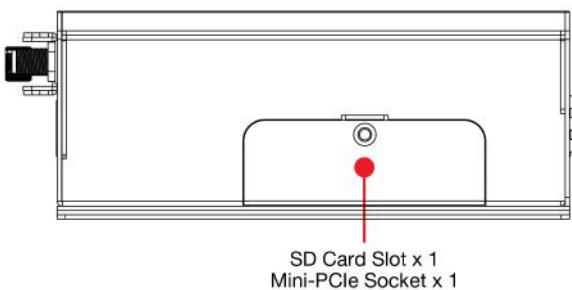
Front View



Rear View



Left View



Specifications

Computer

CPU	Armv7 Cortex-A7 dual-core 1 GHz
System Memory Pre-installed	1 GB DDR3L
Storage Pre-installed	8 GB eMMC

Storage Slot	SD slots x 1 mSATA slots x 1, internal mini-PCIe socket
Supported OS	Linux Debian 8 (Linux kernel v4.1), 2022 EOL Moxa Industrial Linux 1 (Debian 9, kernel 4.4), 2027 EOL See www.moxa.com/MIL
Computer Interface	
Ethernet Ports	Auto-sensing 10/100/1000 Mbps ports (RJ45 connector) x 3
Serial Ports	RS-232/422/485 ports x 8, software selectable (RJ45)
USB 2.0	USB 2.0 hosts x 2, type-A connectors
Digital Input	DIs x 4
Digital Output	DOs x 4
Expansion Slots	UC-8410A-LX Series: 1
Cellular Antenna Connector	UC-8410A-LX Series: 2
Number of SIMs	UC-8410A-LX Series: 1
SIM Format	UC-8410A-LX Series: Mini
Console Port	1 x 4-pin header to DB9 console port
Ethernet Interface	
Magnetic Isolation Protection	1.5 kV (built-in)
Serial Interface	
Baudrate	50 bps to 115.2 kbps
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)
Serial Signals	
RS-232	TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND
RS-422	Tx+, Tx-, Rx+, Rx-, GND
RS-485-2w	Data+, Data-, GND
RS-485-4w	Tx+, Tx-, Rx+, Rx-, GND
Digital Inputs	
Channel-to-Channel Isolation	3000 VDC
Connector	Screw-fastened Euroblock terminal
Dry Contact	On: short to GND Off: open

Sensor Type	Dry contact Wet contact (NPN or PNP)
Wet Contact (DI to COM)	On: 10 to 30 VDC Off: 0 to 3 VDC
Digital Outputs	
Connector	Screw-fastened Euroblock terminal
Current Rating	200 mA per channel
I/O Type	Sink
Voltage	Open-drain to 30 VDC
LED Indicators	
System	Power x 1 System ready x 1 Storage x 1 Programmable x 10
LAN	2 per port (10/100/1000 Mbps)
Serial	2 per port (Tx, Rx)
Power Parameters	
Input Current	1.57A @ 12 VAC max.
Input Voltage	12 to 48 VDC
Power Consumption	19 W (max.)
Power Connector	Terminal block (for DC models)
Physical Characteristics	
Dimensions	200 x 120 x 48.6 mm (7.87 x 4.72 x 1.91 in)
Weight	1,000 g (2.21 lb)
Housing	Metal
IP Rating	IP30
Installation	Wall mounting (standard)
Environmental Limits	
Operating Temperature	Standard Models: -10 to 60°C (14 to 140°F) Wide Temp. Models: -40 to 75°C (-40 to 167°F) Wide Temp. Models with LTE/Wi-Fi: -40 to 70°C (-40 to 158°F)
Storage Temperature (package included)	Standard Models: -20 to 75°C (-4 to 167°F) Wide Temp. Models: -40 to 85°C (-40 to 185°F)
Ambient Relative Humidity	5 to 95% (non-condensing)
Standards and Certifications	
EMC	EN 55032/35
EMI	CISPR 32, FCC Part 15B Class A
EMS	IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV IEC 61000-4-3 RS: 80 MHz to 1 GHz: 3 V/m IEC 61000-4-4 EFT: Power: 0.5 kV; Signal: 0.5 kV IEC 61000-4-5 Surge: Power: 0.5 kV; Signal: 1 kV

	IEC 61000-4-6 CS: 3 V IEC 61000-4-8 PFMF
Safety	UL/IEC 60950-1 & 62368-1
Shock	IEC 60068-2-27
Vibration	IEC 60068-2-64

Declaration

Green Product	RoHS, CRoHS, WEEE
---------------	-------------------

Warranty

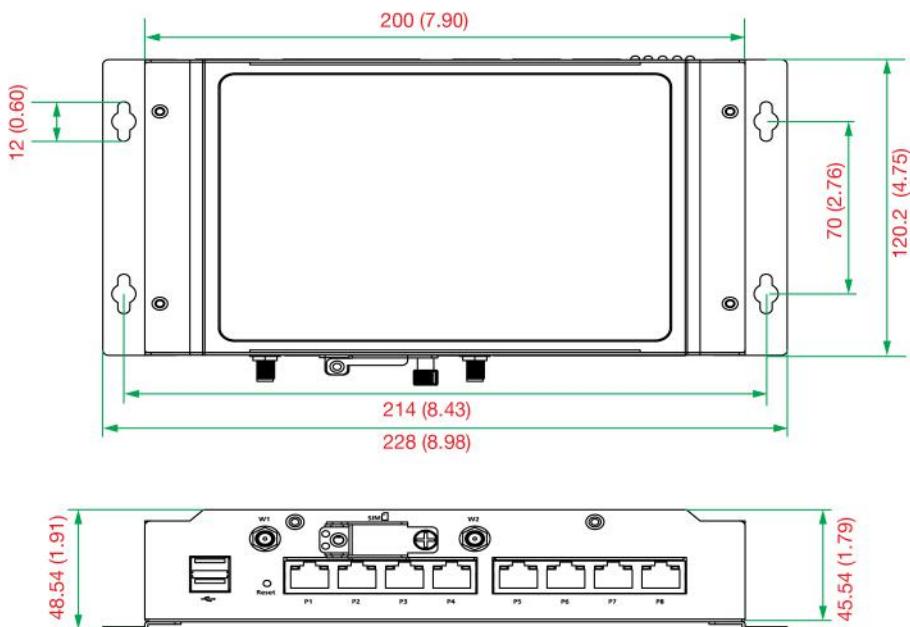
Warranty Period	5 years
Details	See www.moxa.com/warranty

Package Contents

Device	1 x UC-8410A Series computer
Installation Kit	1 x terminal block, 3-pin 1 x wall-mounting kit
Cable	1 x 4-pin header to DB9 console cable 1 x terminal block to power jack converter
Documentation	1 x quick installation guide 1 x warranty card

Dimensions

Unit: mm (inch)



Ordering Information

Model Name	CPU	OS	mPCIe Slot for Wireless Module	SIM Slots	Operating Temp.
UC-8410A-LX	Armv7 Cortex-A7 dual-core 1 GHz	Debian 8	✓	1	-10 to 60°C
UC-8410A-LX (deb9)	Armv7 Cortex-A7 dual-core 1 GHz	Moxa Industrial Linux (Debian 9)	✓	1	-10 to 60°C
UC-8410A-T-LX	Armv7 Cortex-A7 dual-core 1 GHz	Debian 8	✓	1	-40 to 75°C -40 to 70°C (with Wi-Fi)
UC-8410A-T-LX (deb9)	Armv7 Cortex-A7 dual-core 1 GHz	Moxa Industrial Linux (Debian 9)	✓	1	-40 to 75°C -40 to 70°C (with LTE/Wi-Fi)
UC-8410A-NW-LX	Armv7 Cortex-A7 dual-core 1 GHz	Debian 8	—	—	-10 to 60°C
UC-8410A-NW-LX (deb9)	Armv7 Cortex-A7 dual-core 1 GHz	Moxa Industrial Linux (Debian 9)	—	—	-10 to 60°C
UC-8410A-NW-T-LX	Armv7 Cortex-A7 dual-core 1 GHz	Debian 8	—	—	-40 to 75°C
UC-8410A-NW-T-LX (deb9)	Armv7 Cortex-A7 dual-core 1 GHz	Moxa Industrial Linux (Debian 9)	—	—	-40 to 75°C

Accessories (sold separately)

Antennas

ANT-WDB-ARM-02	2 dBi at 2.4 GHz or 2 dBi at 5 GHz, RP-SMA (male) 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-LTE-ASM-05 BK	704-960/1710-2620 MHz, LTE stick antenna, 5 dBi

Cables

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

Cellular Wireless Modules

UC-8410A LTE-CAT4-EU	Telit LE910C4-EU LTE Cat. 4 mini card with 2 M2.5 screws for the EMEA region, compatible with UC-8410A hardware rev. 2.1.0 and higher
----------------------	---

Wi-Fi Wireless Modules

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

DIN-Rail Mounting Kits

UC-8410A DIN-rail Kit	DIN-rail kit with 6 M3 screws (also included in the UC-8410A Series package)
-----------------------	--

Power Adapters

PWR-24250-DT-S1	Desktop power supply (requires power cord), 24 VDC, 2.5 A, 100 to 240 VAC, 0 to 40°C operating temperature
-----------------	--

Power Cords

PWC-C13CN-3B-183	Power cord with three-prong CN plug, 1.83 m
PWC-C13AU-3B-183	Power cord with AU plug, 1.83 m
PWC-C13JP-3B-183	Power cord with JP plug plug, 7A/125V, 1.83 m
PWC-C13UK-3B-183	Power cord with UK plug, 1.83 m
PWC-C13US-3B-183	Power cord with US plug, 1.83 m
PWC-C13EU-3B-183	Power cord with EU/KR plug, 1.83 m

© Moxa Inc. All rights reserved. Updated Aug 11, 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.