

# UC-8410A Series

Arm-based wireless-enabled wall-mount industrial computers with 8 serial ports, 3 LAN ports, and 4 DI/DO



## 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
- Ready-to-run Debian 8

## 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.

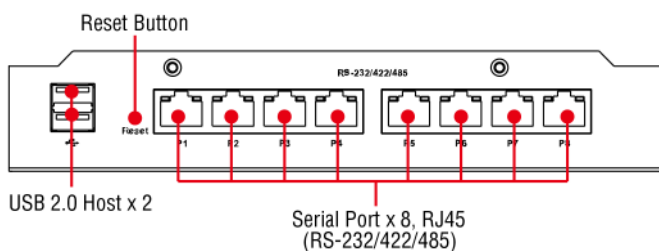
The UC-8410A computer uses the Freescale Cortex-A7 dual-core 1 GHz RISC CPU. This powerful computing engine supports several useful communications functions, without generating too much heat. The built-in 8 GB eMMC card and 1 GB DDR3 SDRAM give you enough memory to run your application software, and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

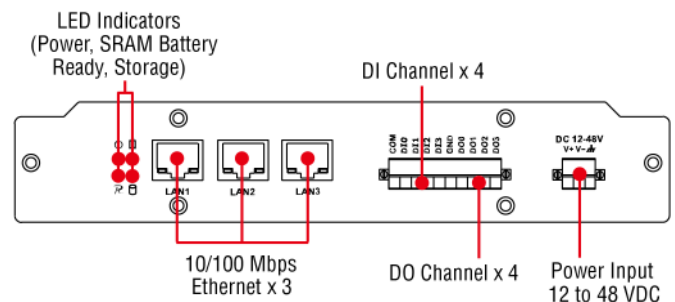
The UC-8410A Series comes with Linux Debian 8 preinstalled to provide an open software operating system for software program development. This makes the UC-8410A computer an optimal solution for use with industrial applications, but at minimal cost and effort. In addition to the standard model of the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

## Appearance

### Front View



### Rear View



## Specifications

### Computer

CPU	Armv7 Cortex-A7 dual-core 1 GHz
System Memory Pre-installed	1 GB DDR3L
Supported OS	Linux Debian 8 (Linux kernel v4.1)
Storage Pre-installed	8 GB eMMC

### Computer Interface

Ethernet Ports	Auto-sensing 10/100/1000 Mbps ports (RJ45 connector) x 3
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
Serial Ports	RS-232/422/485 ports x 8, software-selectable (RJ45)

### 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)

## Serial Interface

Baudrate	50 bps to 115.2 kbps
Flow Control	RTS/CTS, XON/XOFF, ADDC® (automatic data direction control) for RS-485, RTS Toggle (RS-232 only)
Isolation	N/A
Parity	None, Even, Odd, Space, Mark
Stop Bits	1, 1.5, 2

## 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

## Power Parameters

Input Voltage	12 to 48 VDC
Power Connector	Terminal block (for DC models)
Power Consumption	19 W (max.)

## Physical Characteristics

Housing	Metal
IP Rating	IP30
Dimensions	200 x 120 x 48.6 mm (7.87 x 4.72 x 1.91 in)
Weight	1,000 g (2.21 lb)
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)
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)

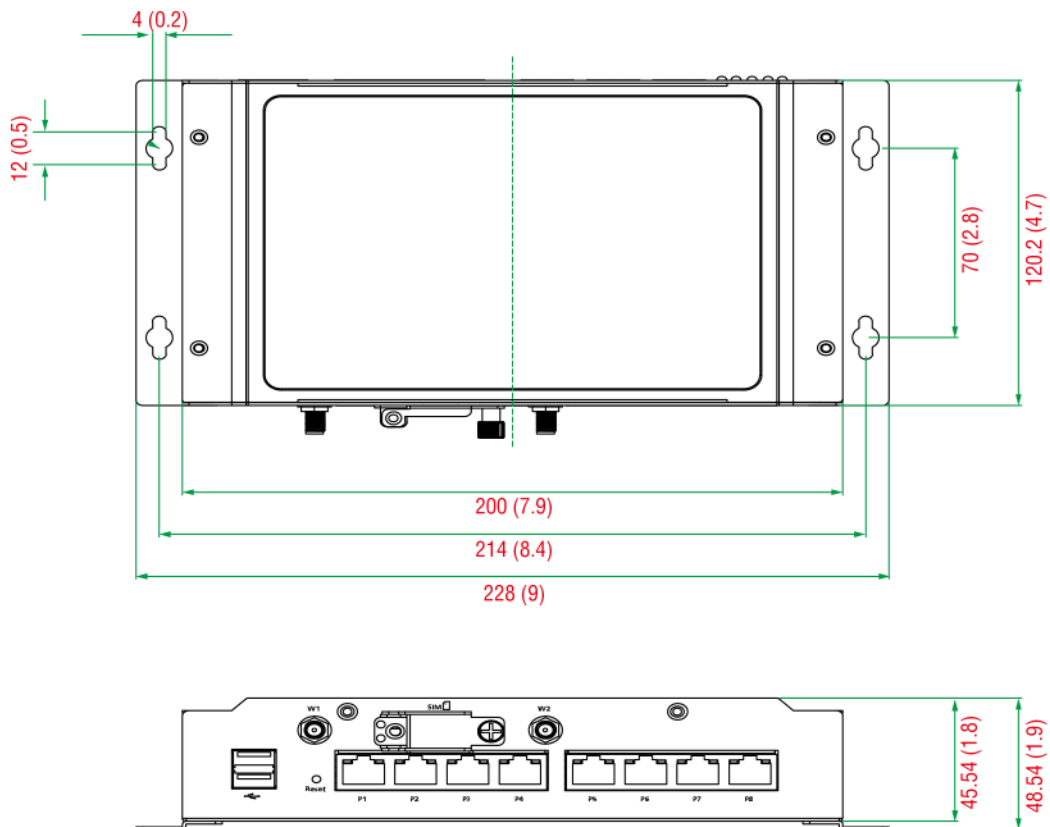
## Standards and Certifications

EMC	EN 55032/24
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 60950-1

Shock	IEC 60068-2-27
Vibration	IEC 60068-2-64
<b>Declaration</b>	
Green Product	RoHS, CRoHS, WEEE
<b>Warranty</b>	
Warranty Period	5 years
Details	See <a href="http://www.moxa.com/warranty">www.moxa.com/warranty</a>
<b>Package Contents</b>	
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 document and software CD 1 x quick installation guide 1 x warranty card

## Dimensions

Unit: mm (inch)



## Ordering Information

Model Name	CPU	OS	RAM	eMMC	mSATA	mPCIe Slot for Wireless Module	SIM Slots	USB	Ethernet Ports	Serial Ports	DIO Ports	Operating Temp.
UC-8410A-LX	Armv7 Cortex-A7 dual-core 1 GHz	Debian 8	1 GB	8 GB	1 slot	✓	1	2	3	8	4 x DI, 4 x DO	-10 to 60°C
UC-8410A-T-LX	Armv7 Cortex-A7 dual-core 1 GHz	Debian 8	1 GB	8 GB	1 slot	✓	1	2	3	8	4 x DI, 4 x DO	-40 to 75°C
UC-8410A-NW-LX	Armv7 Cortex-A7 dual-core 1 GHz	Debian 8	1 GB	8 GB	1 slot	-	-	2	3	8	4 x DI, 4 x DO	-10 to 60°C
UC-8410A-NW-T-LX	Armv7 Cortex-A7 dual-core 1 GHz	Debian 8	1 GB	8 GB	1 slot	-	-	2	3	8	4 x DI, 4 x DO	-40 to 75°C

## Accessories (sold separately)

### Antennas

ANT-LTE-ASM-02	GPRS/EDGE/UMTS/HSPA/LTE, omni-directional rubber duck antenna, 2 dBi
ANT-WDB-ARM-02	2.4/5 GHz, omni-directional rubber duck antenna, 2 dBi, RP-SMA (male)

### Cables

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

PWC-C7AU-2B-183	Power cord with Australian (AU) plug, 2.5A/250V, 1.83 m
PWC-C7CN-2B-183	Power cord with two-prong China (CN) plug, 1.83 m
PWC-C7EU-2B-183	Power cord with Continental Europe (EU) plug, 2.5A/250V, 1.83 m
PWC-C7UK-2B-183	Power cord with United Kingdom (UK) plug, 2.5A/250V, 1.83 m
PWC-C7US-2B-183	Power cord with United States (US) plug, 10A/125V, 1.83 m

### Power Adapters

PWR-24270-DT-S1	Power adapter, input voltage 90 to 264 VAC, output voltage 24 V with 2.5 A DC load
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### Cellular Wireless Modules

CELLULAR-LTE-EU(LE910)	LTE module, antenna with cable and connector, 2 black screws, 1 lock washer, 1 nut, 1 thermal pad
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### 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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