

# UC-8100 Series Quick Installation Guide

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Technical Support Contact Information  
[www.moxa.com/support](http://www.moxa.com/support)

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**P/N: 1802081000015**



## Overview

The UC-8100 computing platform is designed for embedded data-acquisition applications. The computer comes with one or two RS-232/422/485 serial ports and dual 10/100 Mbps Ethernet LAN ports, as well as a Mini PCIe socket to support cellular modules. These versatile communication capabilities let users efficiently adapt the UC-8100 to a variety of complex communication solutions.

## Package Checklist

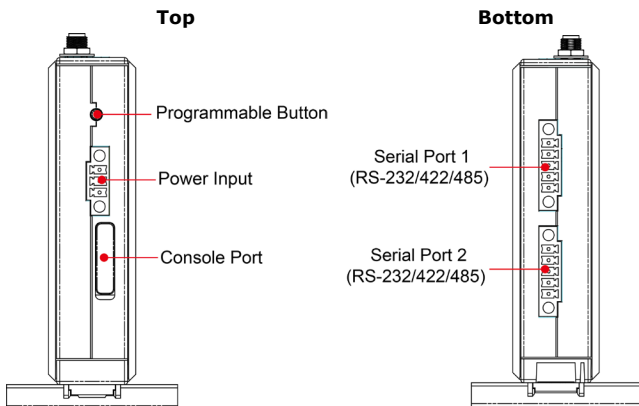
- UC-8100 embedded computer
- Console cable
- Power jack
- 3-pin terminal block for power (preinstalled)
- 5-pin terminal block for UART x 2 (preinstalled)

*Please notify your sales representative if any of the above items are missing or damaged.*

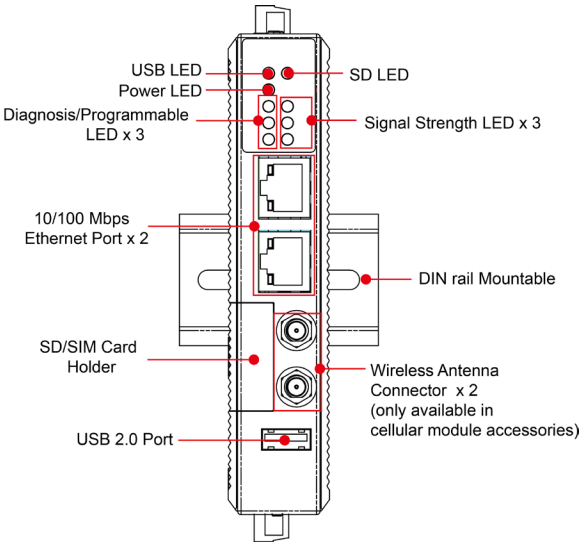
## Panel Layout

The following figures show the panel layouts of the UC-8100.







### Top and Bottom Panel



## Front Panel



## LED Indicators

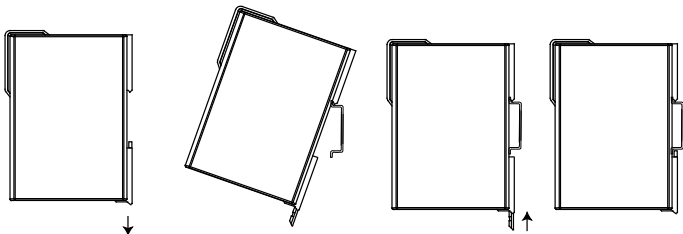
LED Name	Color	Function
 USB	Green	Steady On   USB device is connected and working normally
		Off   USB device is not connected.
 SD	Green	Steady On   SD Card inserted and working normally
		Off   SD card is not detected
 Power	Green	Power is on and the computer is working normally.
	Off	Power is off.
 LAN1/2 (On RJ45 connector)	Green	Steady On   100 Mbps Ethernet link
		Blinking   Data transmitting
	Yellow	Steady On   10 Mbps Ethernet link
		Blinking   Data transmitting
Off	Ethernet is not connected	
 Wireless Signal Strength	Green	Number of glowing LEDs indicates signal strength 3 (Green + Yellow + Red): Excellent 2 (Yellow + Red): Good 1 (Red): Poor
	Yellow	
	Red	
	Off	Wireless module is not detected
 Diagnosis	Green Yellow Red	These 3 LEDs are used for diagnostics and are programmable. For additional details, refer to the <i>UC-8100 Series Hardware Manual</i> .

## Installing the UC-8100

There are two sliders on the back of the unit for DIN-rail and wall mounting.

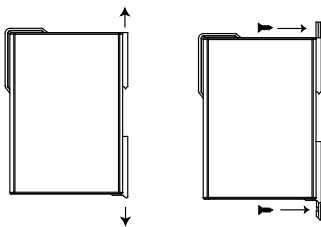
### Mounting on a DIN Rail

Pull out the bottom slider, latch the unit onto the DIN rail, and push the slider back in.

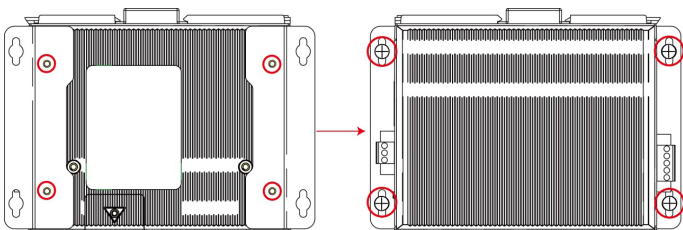


### Mounting on a Wall

Pull out both the top and bottom sliders, align the screws with the mounting holes, and secure the device to the wall by driving the screws into the wall.



Another method for wall mounting installation is to use an optional wall mounting kit. Attach the two mounting brackets on the side panel of the computer using the screws in the package. Install the computer on to a wall or cabinet by fastening two screws (M3) for each mounting bracket. The second set of screws are not included in the package and must be purchased separately.



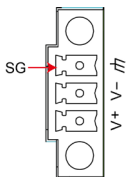
## Connector Description

### Power Connector

Connect the "terminal block to power jack converter" (included in the package) to the UC-8100's DC terminal block (located on the top panel), and then connect the power adapter. It takes about 30 seconds for the system to boot up. Once the system is ready, the **Power** LED will light up.

## Grounding the UC-8100

Grounding and wire routing help limit the effects of noise due to electromagnetic interference (EMI).



**SG:** The shielded ground (sometimes called protected ground) contact is the top contact of the 3-pin power terminal block connector when viewed from the angle shown here. Connect the SG wire to an appropriate grounded metal surface.



### ATTENTION

The product is intended to be supplied by an UL Listed power adapter whose output meets SELV/LPS, and is rated 12-24 VDC, minimum 0.5 A, Tma = 85°C (minimum).



### ATTENTION

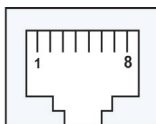
#### Altitude Requirement

This product and the listed power supply (LPS) adapter(s) used with it are UL-certified for operation at 2,000 meters. Although the product is tested at 5,000 meters, it is not UL-certified for this altitude. For reliable performance of the product in high-altitude installations of over 2,000 meters (e.g., 5,000 meters), use a suitable adapter that is tested and certified at the altitude (i.e., 5,000 meters).

## Ethernet Ports

The two 10/100 Mbps Ethernet ports (LAN 1 and LAN 2) use RJ45 connectors. Refer to the following table for the pin assignments.

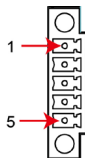
Pin	Signal
1	ETx+
2	ETx-
3	ERx+
6	ERx-



## Serial Ports

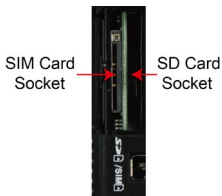
The two serial ports (P1 and P2) use terminal connectors. Each port can be configured by software for RS-232, RS-422, or RS-485. Refer to the following table for the pin assignments.

Pin	RS-232	RS-422	RS-485
1	TXD	TXD+	-
2	RXD	TXD-	-
3	RTS	RXD+	D+
4	CTS	RXD-	D-
5	GND	GND	GND



## **SD/SIM Card Slots**

The UC-8100 comes with an SD slot for storage expansion and a SIM card slot for cellular communication. The SD card/SIM card slots are located at the lower part of the front panel. To install them, remove the screw and the cover to access the slots, and then insert the SD card or the SIM card. You will hear a click when they are inserted correctly. To remove them, push the cards in and then release them.



## **Console Port**

The console port is a RS-232 port that can be connected with a 4-pin pin header cable. You may use this port for debugging or firmware upgrade.



Pin	Signal
1	TxD
2	RxD
3	NC
4	GND

## **USB**

The USB 2.0 port is located at the lower part of the front panel, and supports a USB storage device driver.

## **Real-time Clock**

The UC-8100's real-time clock is powered by a non-chargeable battery. We strongly recommend that you do not replace the battery without help from a qualified Moxa support engineer. If you need to change the battery, contact the Moxa RMA service team.

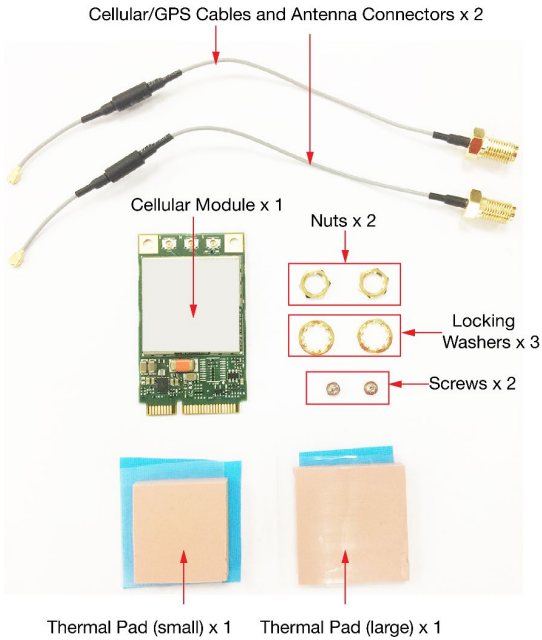


### **ATTENTION**

There is a risk of explosion if the battery is replaced by an incorrect type of battery.

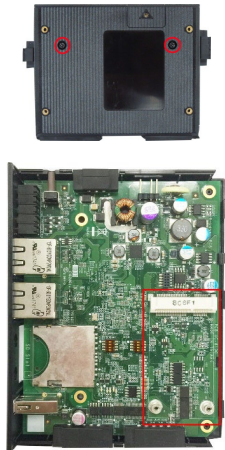
## **Installing the Cellular Module (excludes UC-8112-LX)**

The computer comes with a Mini PCIe socket for installing a cellular module. The cellular module package includes the following items.

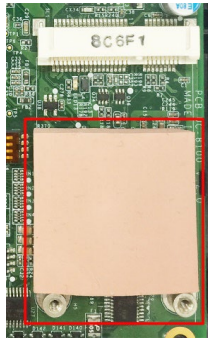


Follow these steps to install the cellular module.

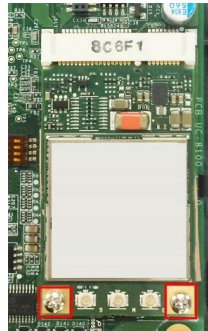
1. Unfasten the screws on the side panel of the computer and remove the cover.
2. Find the location of the PCIe socket.



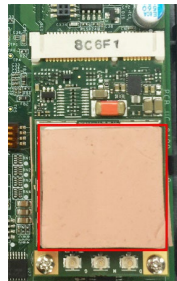
- Remove the plastic plate and the sticker on both sides of the **large** thermal pad and place it in the socket. Press the thermal pad down so that it sticks to the base of the socket. Place the thermal pad as close as possible to the holes for the screws used to secure the module.



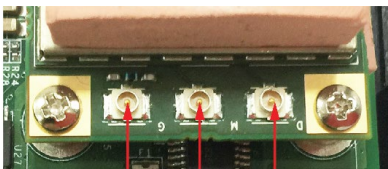
- Insert the cellular module into the socket and tighten the screws to secure the module to the socket.



- Remove the plastic plate and the sticker on both side of the **small** thermal pad and stick the thermal pad on to the module.



- Install the antenna cables. There are three antenna connectors on the module; two for cellular antennas and one for a GPS antenna. Refer to the figure for details. As there are only two antenna connector holes on the front panel of the computer, you can only use two antennas at a time. You may use two cellular antennas, or a cellular antenna and a GPS antenna. The same antenna cables can be used for both antenna types.



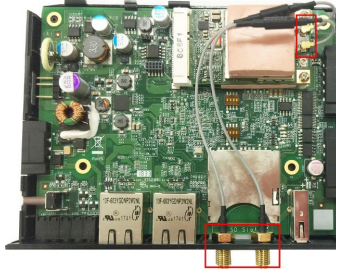
GPS Antenna Connector

Cellular Antenna Connectors 2

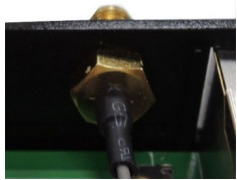
Cellular Antenna Connectors 1



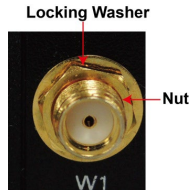
7. Connect one end of the antenna cable to the cellular module.



8. Insert the other end of the cable, with the connector, through the antenna connector hole on the front panel of the computer. Remove the black plastic protection cover on the connector hole before you insert the antenna wire.



9. Insert the locking washer through the connector and press it against the cover of the computer. Then, insert the nut and tighten it to secure the connector to the cover.



10. Connect the antenna to the antenna connector.
11. Replace the cover of the computer.



## Connecting the UC-8100 to a PC

- A. Through the serial console port with the following settings:  
**Baudrate=115200 bps, Parity=None, Data bits=8, Stop bits =1, Flow Control=None**



### ATTENTION

Remember to choose the "VT100" terminal type. Use the CBL-RJ45F9-150 cable included in the package to connect the PC to the UC-8100's serial console port.

- B. By SSH over the network. Refer to the following IP addresses and login information.

	Default IP Address	Netmask
<b>LAN 1</b>	192.168.3.127	255.255.255.0
<b>LAN 2</b>	192.168.4.127	255.255.255.0

**Login: moxa**

**Password: moxa**

## BSMI Certification for Taiwan

### 限用物質含有情況標示聲明書

Declaration of the Presence Condition of the Restricted Substances Marking

設備名稱：嵌入式計算機		型號 (型式)：UC-8112-LX				
Equipment name		Type designation (Type)				
單元 Unit	限用物質及其化學符號					
	Restricted substances and its chemical symbols					
	鉛 Lead (Pb)	汞 Mercury (Hg)	鎘 Cadmium (Cd)	六價鉻 Hexavalent chromium (Cr <sup>+6</sup> )	多溴聯苯 Polybrominat ed biphenyls (PBB)	多溴二苯醚 Polybrominated diphenyl ethers (PBDE)
外殼	○	○	○	○	○	○
印刷電路板 及其電子組 件	—	○	○	○	○	○
電纜/電線/ 連接器	—	○	○	○	○	○
機械部件- 金屬	—	○	○	○	○	○

機械部件- 非金屬	○	○	○	○	○	○
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備考 1. “超出 0.1 wt %”及 “超出 0.01 wt %”係指限用物質之百分比含量超出百分比含量基準值。

Note 1: “Exceeding 0.1 wt %” and “exceeding 0.01 wt %” indicate that the percentage content of the restricted substance exceeds the reference percentage value of presence condition.

備考 2. “○”係指該項限用物質之百分比含量未超出百分比含量基準值。

Note 2: “○” indicates that the percentage content of the restricted substance does not exceed the percentage of reference value of presence.

備考 3. “-”係指該項限用物質為排除項目。

Note 3: The “-” indicates that the restricted substance corresponds to the exemption.



## WARNING

為避免電磁干擾，本產品不應安裝或使用於住宅環境。

### 製造商資訊

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