



UC-8100 Series Quick Installation Guide

Version 3.0, January 2019

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

Before installing the UC-8100, verify that the package contains the following items:

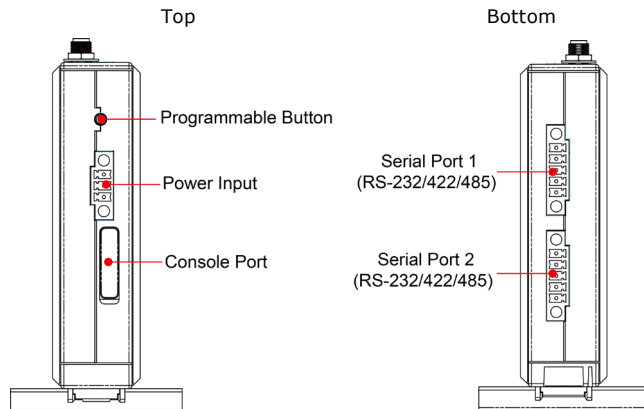
- UC-8100 embedded computer
- Console cable
- Power jack
- 3-pin terminal block for power (preinstalled on UC-8100)
- 5-pin terminal block for UART x 2 (preinstalled on UC-8100)

NOTE: Notify your sales representative if any of the above items are missing or damaged.

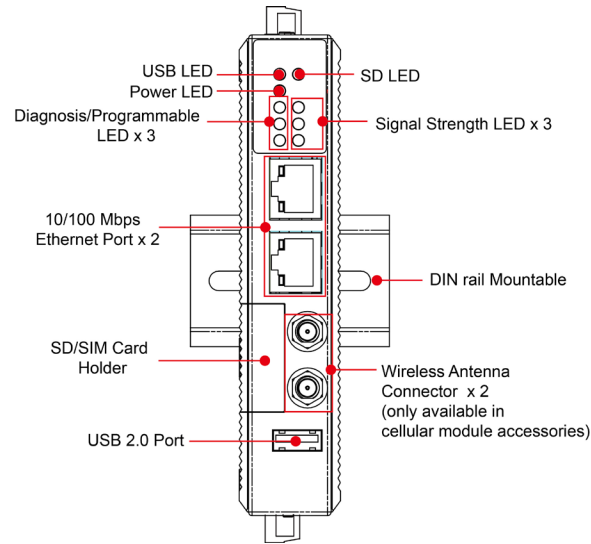
UC-8100 Panel Layout

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

Top and Bottom View



Front View



LED Indicators

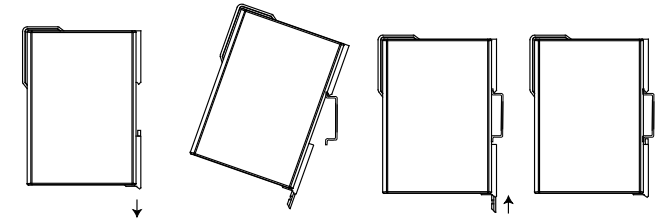
LED Name	Color	Function	
	Green	Steady On	USB device is connected and working normally
		Off	USB device is not connected.
	Green	Steady On	SD Card inserted and working normally
		Off	SD card is not detected
	Green	Power is on and the computer is working normally.	
		Off	Power is off.
	Green	Steady On	100 Mbps Ethernet link
		Blinking	Data transmitting
		Yellow	10 Mbps Ethernet link
	Yellow	Blinking	Data transmitting
		Off	Ethernet is not connected
		Off	Ethernet is not connected
	Green	Number of glowing LEDs indicates signal strength	
		3 (Green + Yellow + Red)	Excellent
		2 (Yellow + Red)	Good
	Red	1 (Red)	Poor
		Off	Wireless module is not detected
	Green	Refer Chapter 3 in the Hardware Manual for details.	
		Yellow	These 3 LEDs are programmable; refer to Chapter 5 in the Hardware Manual for details.
	Yellow		
		Red	

Installing the UC-8100

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

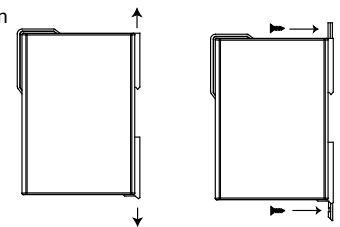
Mounting on a DIN Rail

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

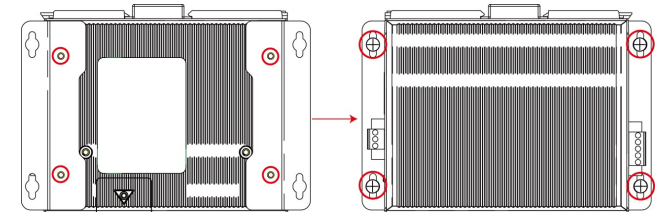


Mounting on a Wall

Pull out both the top and bottom sliders and align the screws accordingly.



Another method for wall mounting installation is to use the optional wall mounting kit. Attach two mounting brackets on the side panel of the computer, and fasten with screws. Install the computer on a wall or cabinet by fastening two screws for each bracket.



Connector Description

Power Connector

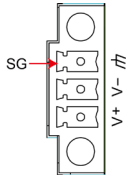
Connect the "terminal block to power jack converter" (in the package) to the UC-8100's DC terminal block (located on the top panel), and then connect the power adapter. It takes about 30 seconds for the system to boot up. Once the system is ready, the Ready LED will light up.

P/N: 180208100012



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.

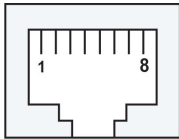
ATTENTION

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).

Ethernet Ports

The two 10/100 Mbps Ethernet ports (LAN 1 and LAN 2) use RJ45 connectors.

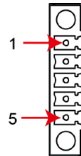
Pin	Signal
1	ETx+
2	ETx-
3	ERx+
6	ERx-



Serial Ports

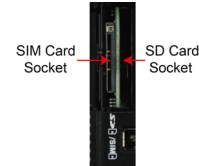
The two serial ports (P1 and P2) use terminal connectors. Each port can be configured by software for RS-232, RS-422, or RS-485. The pin assignments for the ports are shown in the following table:

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 Sockets

The UC-8100 comes with an SD socket for storage expansion, and a SIM card socket for cellular communication. The SD card/SIM card sockets are located at the lower part on the front panel. To install them, remove the screw and the protection cover to access the sockets, and then plug the SD card or the SIM card into the sockets directly. You will hear "click" when finished. Remember to push in on the SD card or SIM card first if you want to remove them.



Console Port

The console port is an 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.

Cellular Module

The UC-8100 comes with a PCIe socket inside for wireless communication. Follow these steps:

1. Remove the screws on the side panel, and take off the cover.
2. Find the location of the PCIe socket. Insert the cellular module into the socket. Fasten the socket with screws.

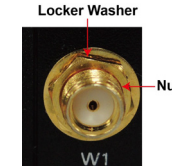
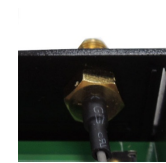


3. Next you need to install the antenna cable. There are two antenna connectors on the cellular module. Connect the cable onto either connector.

4. Install the other end of the cable onto the connector on the front panel of the UC-8100. Remove the black plastic cover first.



5. Install the connector, place the locker washer first, and then insert the nut. Connect the antenna onto the connector.



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 a 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
LAN 1	192.168.3.127	255.255.255.0
LAN 2	192.168.4.127	255.255.255.0

Login: moxa

Password: moxa

MOXA www.moxa.com/support

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