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 communications solutions.

Package Checklist
Before installing the UC-8100, verify that the package contains the following items:
- UC-8100 embedded computer (with SD card)
- Power jack
- 3-pin terminal block for power
- 5-pin terminal block for UART x 2

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

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 the 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.

Grounding the UC-8100
Grounding and wire routing help limit the effects of noise due to electromagnetic interference (EMI).
The pin assignments for the ports are shown in the following table:

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

<table>
<thead>
<tr>
<th>Pin</th>
<th>Signal</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>ETx+</td>
</tr>
<tr>
<td>2</td>
<td>ETx-</td>
</tr>
<tr>
<td>3</td>
<td>ERx+</td>
</tr>
<tr>
<td>6</td>
<td>ERx-</td>
</tr>
</tbody>
</table>

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:

<table>
<thead>
<tr>
<th>Pin</th>
<th>RS-232</th>
<th>RS-422</th>
<th>RS-485</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>TXD</td>
<td>TXD+</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>RXD</td>
<td>RXD+</td>
<td>D+</td>
</tr>
<tr>
<td>3</td>
<td>RTS</td>
<td>RXD÷</td>
<td>D−</td>
</tr>
<tr>
<td>4</td>
<td>CTS</td>
<td>RXD+</td>
<td>D+</td>
</tr>
<tr>
<td>5</td>
<td>GND</td>
<td>GND</td>
<td>GND</td>
</tr>
</tbody>
</table>

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 socket. Make sure you insert in the correct direction.

Micro SD Card
The UC-8100 comes with a micro SD card socket for storage expansion. Remove the screws on the side panel, and take off the cover. Insert the micro SD card into the socket. Make sure you insert the correct direction.

USB
The USB 2.0 port is located at the lower part of the front panel, and supports a USB storage device driver. The USB storage will be mounted at /mnt/usbstorage.

Real Time Clock
The UC-8100's real time clock is powered by a lithium battery. We strongly recommend that you do not replace the lithium 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.

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-RJ45P9-150 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

ATTENTION
By default, the operating system is stored on the SD card. Do not remove the SD card while the computer is still running.