

UC-8112-ME-T Series Quick Installation Guide

Version 2.2, January 2021

Technical Support Contact Information
www.moxa.com/support

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P/N: 1802081120022



Overview

The UC-8112-ME-T computing platform is designed for embedded data acquisition applications. The UC-8112-ME-T 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-8112-ME-T to a variety of complex communications solutions.

Package Checklist

Before installing the UC-8112-ME-T, verify that the package contains the following items:

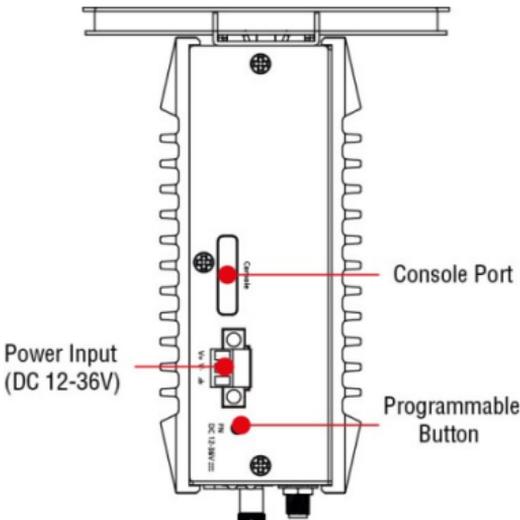
- UC-8112-ME-T embedded computer
- Power jack
- 3-pin terminal block for power
- 5-pin terminal block for UART x 2
- Quick installation guide (printed)
- Warranty card

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

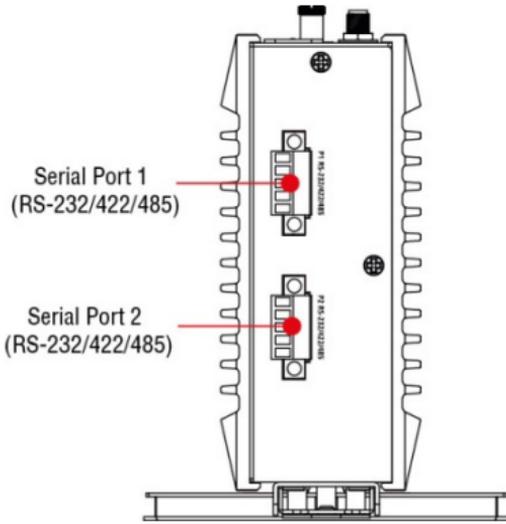
UC-8112-ME-T Panel Layout

The following figures show the panel layouts of the UC-8112-ME-T:

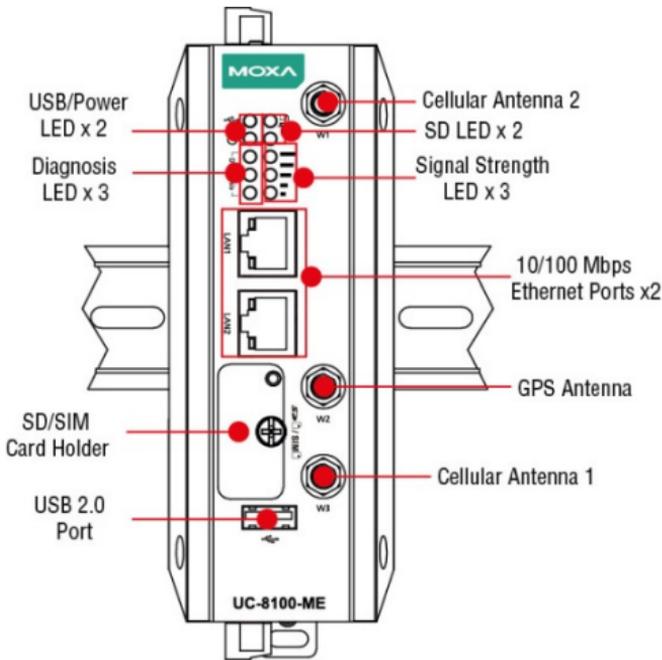
Top Panel View



Bottom Panel View



Front Panel View



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/ LAN 2 (RJ45 connector)	Green	Steady On 100 Mbps Ethernet link
		Blinking Data transmission in progress
	Yellow	Steady On 10 Mbps Ethernet link
		Blinking Data transmission in progress
Off	Ethernet is not connected.	

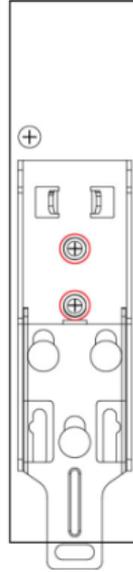
LED Name	Color	Function
	Green Yellow Red	The number of glowing LEDs indicates the signal strength. 3 (Green + Yellow + Red): Excellent 2 (Yellow + Red): Good 1 (Red): Poor
	Off	Wireless module is not detected.
	Programmable diagnostic LEDs	These three LEDs are programmable. For details, refer to the "Default Programmable Button Operation" section in the <i>Hardware User's Manual</i> .

Installing the UC-8112-ME-T

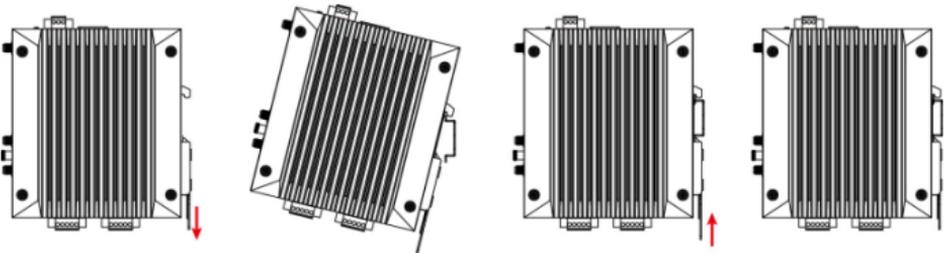
Two sliders are provided at the back of the unit for DIN-rail mounting or wall mounting.

DIN-Rail Mounting

1. The DIN-rail mounting kit is mounted by default as shown in the figure below:



2. Pull down the bottom slider of the DIN-rail bracket located at the back of the unit
3. Insert the top of the DIN rail into the slot just below the upper hook of the DIN-rail bracket.
4. Latch the unit firmly on to the DIN rail as shown in the illustrations below.
5. Push the slider back into place.



Wall Mounting (optional)

1. Remove the four screws on the side-panel silver cover of the device.



2. Place the wall-mount brackets on the silver cover and fasten the screws as shown below. Use only the screws provided in the wall-mounting kit package.



ATTENTION

The wall-mounting kit is not included in the package and must be purchased separately.

Connector Description

Power Connector

Connect the power jack (in the package) to the UC-8112-ME-T'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.



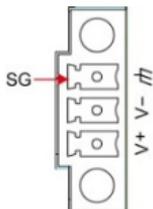
WARNING

EXPLOSION HAZARD!

Do not disconnect equipment unless the power has been removed or the area is known to be non-hazardous.

Grounding the UC-8112-ME-T

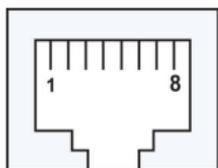
Grounding and wire routing help limit the effects of noise due to electromagnetic interference (EMI).



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.

Ethernet Ports

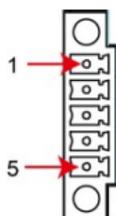
The two 10/100 Mbps Ethernet ports (LAN 1 and LAN 2) use RJ45 connectors.



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-8112-ME-T 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 the cards, remove the screw and the protection cover to access the sockets, and then insert the SD card or the SIM card into the sockets directly. You will hear a click when the cards are in place. To remove the cards, push the cards in before releasing them.



Console Port

The console port is an RS-232 port that can be connected to with a 4-pin pin header cable. You can use this port for debugging or firmware upgrade. Note that the cable is not included in the package.



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. By default, the USB storage is mounted at `/mnt/usbstorage`.

Real-time Clock

The real-time clock in the UC-8112-ME is powered by a lithium battery. We strongly recommend that you do not replace the lithium battery without the help of a 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 with an incorrect type of battery.

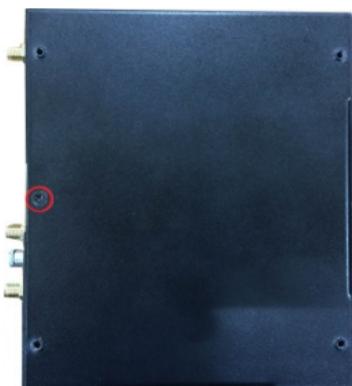
Cellular Module

The UC-8112-ME-T comes with a built-in PCIe socket for wireless communication. To install a cellular module, do the following:

1. Remove the four screws on the DIN-rail mounting bracket and detach the bracket from the unit.
2. Remove the two screws on the rear panel.



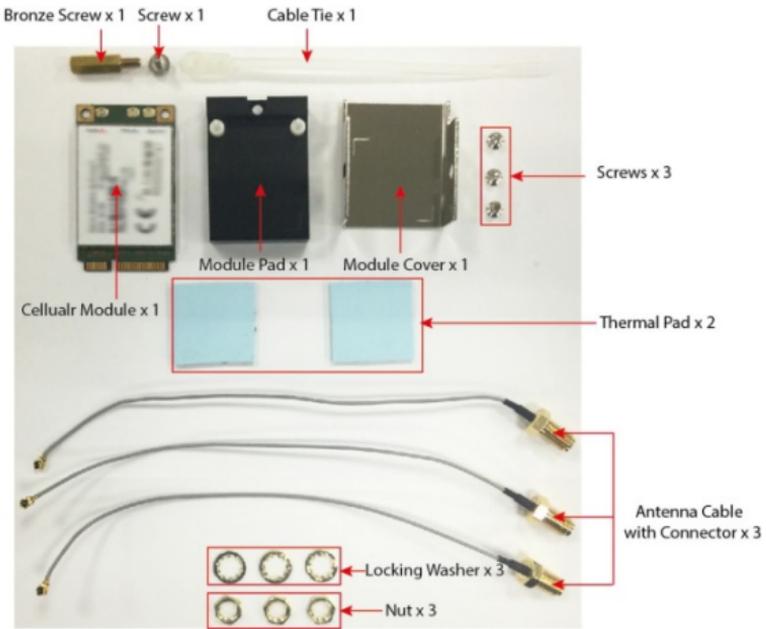
3. Remove the four screws on the silver cover on the right panel and remove the cover.
4. Remove the screw on the metal cover.



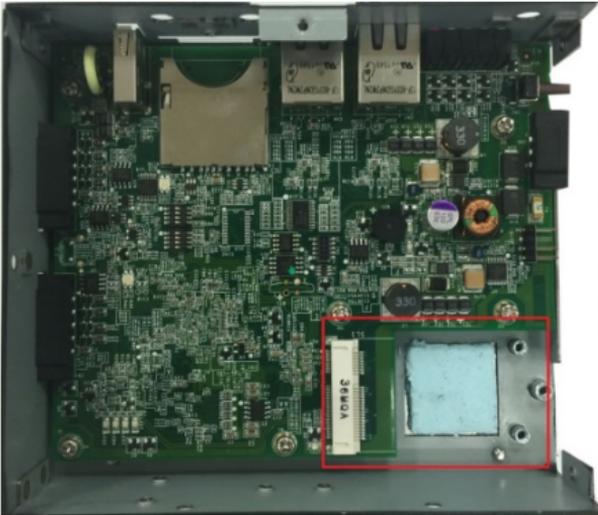
5. Remove the three screws on the top panel.
6. Remove the two screws on the bottom panel.



7. Check the contents of the cellular module package. The package should contain the items shown below:



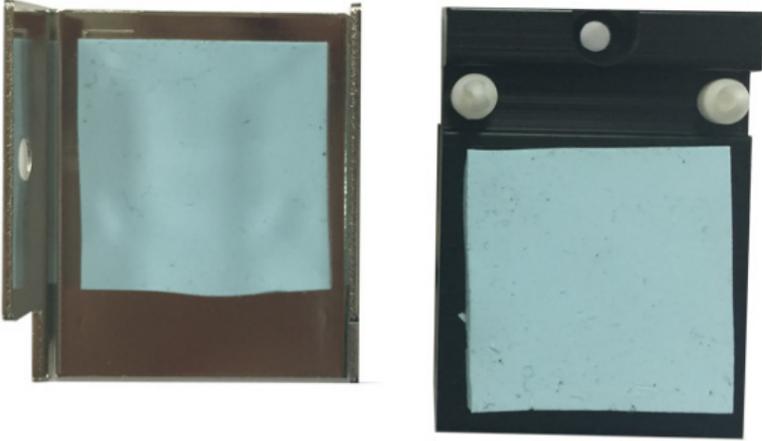
8. Remove the metal cover of the computer and locate the cellular module socket.



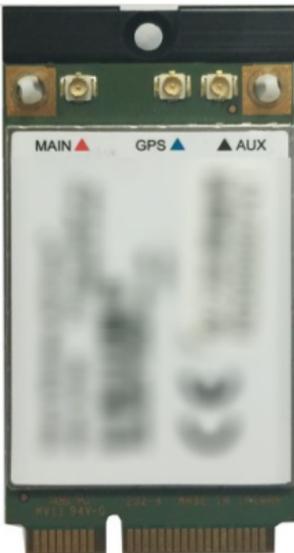
9. Remove the screw next to the socket and replace it with the bronze screw (in the package) as shown below:



10. Attach one thermal pad to the cellular module cover and the other thermal pad to the module pad.



11. Attach the cellular module to the module pad.



12. Mount the module cover on the cellular module and use screws on both sides to secure the cover.



13. Insert the module into the socket and secure it using a screw from the package.



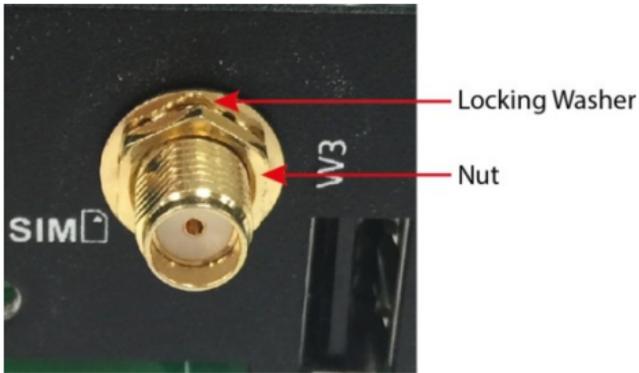
14. Connect antenna cables to the cellular module. There are three antenna connectors on the cellular module: W1 and W3 are for cellular antennas and W2 is for GPS antenna.



15. Insert the antenna connectors through the antenna cable holes on the front panel of the cover as shown below:



16. Secure the antenna connectors to the cover using a locking washer and nut as shown below:



17. Arrange the antenna cables and use a cable tie to attach the cables to the bronze screw. You may cut the cable tie if it is too long.



18. Plug the antenna onto the connector.



19. Replace the cover of the computer and fasten the screws to secure the cover.

Accessing the UC-8112-ME-T Using a PC

You can use a PC to access the UC-8112-ME-T by one of the following methods:

- 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 console cable to connect a PC to the UC-8112-ME-T's serial console port

- B. Using 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

These devices are open-type devices that are to be installed in an enclosure with tool removable cover or door, suitable for the environment.

This equipment is suitable for use in Class I, Division 2, Groups A, B, C, and D or non-hazardous locations only.



WARNING

The GPS antenna connection is not to be used in hazardous locations.

C1D2 Specifications

1. Temperature Code (T-code): T4
2. Max Ambient : 85°C