

UC-8100A-ME-T Series

Arm Cortex-A8 1 GHz IIoT gateways with built-in LTE Cat. 4 , -40 to 70°C operating temperature



Features and Benefits

- Armv7 Cortex-A8 1000 MHz processor
- Dual auto-sensing 10/100 Mbps Ethernet ports
- SD slot for storage expansion
- Programmable LEDs and a programmable button for easy installation and maintenance
- Mini-PCIe slot for wireless module
- LTE-ready computer with Verizon/AT&T certification and industrial-grade CE/ FCC/UL certifications
- -40 to 70°C wide-temperature range with LTE enabled
- Long-term Linux support until 2027; includes bug fixes and security patches

Certifications



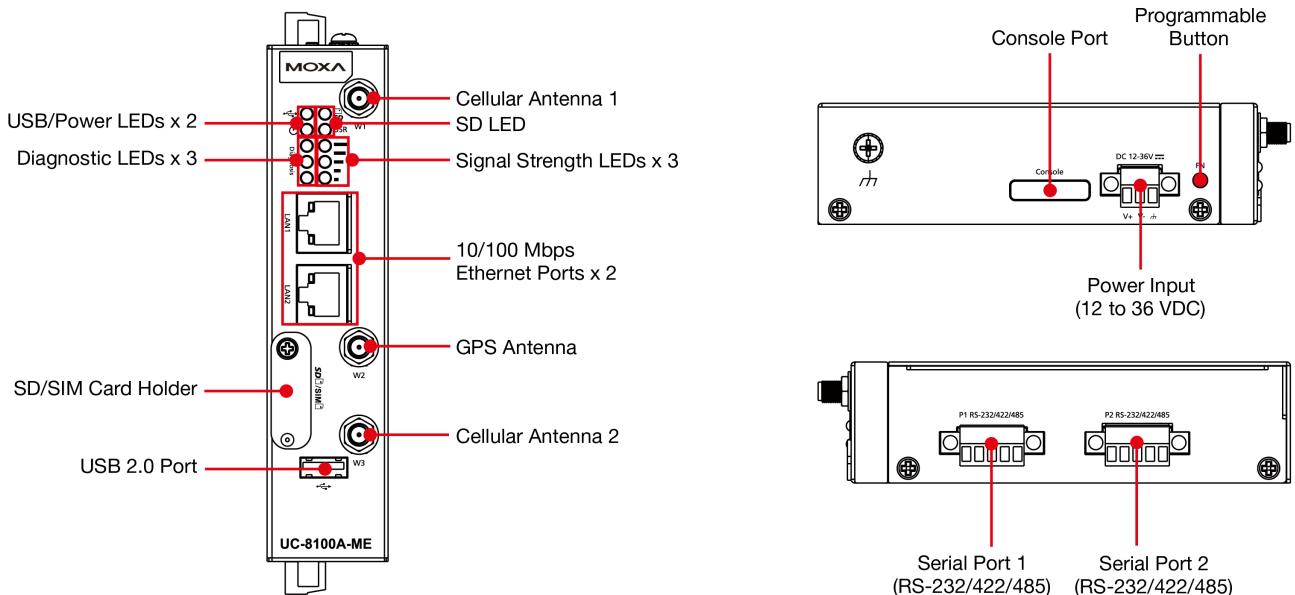
Introduction

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

The UC-8100A-ME-T is built around a Cortex-A8 processor that has been optimized for use in energy monitoring systems, but is widely applicable to a variety of industrial solutions. With flexible interfacing options, this tiny embedded computer is a reliable and secure gateway for data acquisition and processing at field sites as well as a useful communications platform for many other large-scale deployments.

Wide-temperature and LTE-enabled models are available. All units are thoroughly tested in a testing chamber, guaranteeing that the LTE-enabled computing platforms are suitable for wide-temperature applications.

Appearance



Specifications

Computer

CPU	Armv7 Cortex-A8 1 GHz
DRAM	1 GB DDR3
Supported OS	Moxa Industrial Linux 1 (Debian 9, kernel 4.4), 2027 EOL See www.moxa.com/MIL
Storage Pre-installed	8 GB eMMC
Storage Slot	SD slots x 1

Computer Interface

Ethernet Ports	Auto-sensing 10/100 Mbps ports (RJ45 connector) x 2
Serial Ports	RS-232/422/485 ports x 2, software selectable (terminal block)
USB 2.0	USB 2.0 hosts x 1, type-A connectors
Number of SIMs	1
SIM Format	Mini
Cellular Antenna Connector	SMA x 2
GPS Antenna Connector	SMA x 1
Expansion Slots	UC-8112A-ME-T-LX: mPCIe slots x 1
Console Port	RS-232 (TxD, RxD, GND), 4-pin header output (115200, n, 8, 1)
Buttons	Reset button
TPM	TPM v2.0

Ethernet Interface

Magnetic Isolation Protection	1.5 kV (built-in)
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Serial Interface

Baudrate	300 bps to 921.6 kbps
Data Bits	5, 6, 7, 8
Stop Bits	1, 1.5, 2
Parity	None, Even, Odd, Space, Mark
Flow Control	RTS/CTS, XON/XOFF ADDC (automatic data direction control) for RS-485 RTS Toggle (RS-232 only)

Serial Signals

RS-232	TxD, RxD, RTS, CTS, GND
RS-422	Tx+, Tx-, Rx+, Rx-, GND
RS-485-2w	Data+, Data-, GND

Cellular Interface

Band Options	<p>US model: LTE Bands: Band 2 (1900 MHz) / Band 4 (1700 MHz) / Band 5 (850 MHz) / Band 13 (700 MHz) / Band 17 (700 MHz) UMTS Bands: Band 2 (1900 MHz) / Band 5 (850 MHz) Carrier Approval: Verizon, AT&T</p> <p>EU model: LTE Bands: Band 1 (2100 MHz) / Band 3 (1800 MHz) / Band 5 (850 MHz) / Band 7 (2600 MHz) / Band 8 (900 MHz) / LTE Band 20 (800 MHz) UMTS Bands: Band 1 (2100 MHz) / Band 2 (1900 MHz) / Band 5 (850 MHz) / Band 8 (900 MHz)</p> <p>AP model: LTE Bands: Band 1 (2100 MHz) / Band 3 (1800 MHz) / Band 5 (850 MHz) / Band 7 (2600 MHz) / Band 8 (900 MHz) / Band 28 (700 MHz) UMTS Bands: Band 1 (2100 MHz) / Band 2 (1900 MHz) / Band 5 (850 MHz) / Band 8 (900 MHz)</p> <p>LTE Bands: Band 2 (1900 MHz) / Band 4 (1700 MHz) / Band 5 (850 MHz) / Band 13 (700 MHz) / Band 14 (700 MHz) UMTS Bands: Band 2 (1900 MHz) / Band 5 (850 MHz) Carrier Approval: Verizon, AT&T LTE Bands: Band 1 (2100 MHz) / Band 3 (1800 MHz) / Band 5 (850 MHz) / Band 7 (2600 MHz) / Band 8 (900 MHz) / LTE Band 20 (800 MHz) UMTS Bands: Band 1 (2100 MHz) / Band 2 (1900 MHz) / Band 5 (850 MHz) / Band 8 (900 MHz)</p> <p>LTE Bands: Band 1 (2100 MHz) / Band 3 (1800 MHz) / Band 5 (850 MHz) / Band 7 (2600 MHz) / Band 8 (900 MHz) / Band 28 (700 MHz) UMTS Bands: Band 1 (2100 MHz) / Band 2 (1900 MHz) / Band 5 (850 MHz) / Band 8 (900 MHz)</p>
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GPS Interface

Receiver Types	72-channel u-blox M8 engine GPS/GLONASS/Galileo
Accuracy	Position: 2.5 m CEP SBAS: 2.0 m CEP
Acquisition	Aided starts: 3 sec Cold starts: 26 sec
Sensitivity	Cold starts: -148 dBm Tracking: -164 dBm
Time Pulse	0.25 Hz to 10 MHz

LED Indicators

System	Power x 1 Programmable x 1 SD slots x 1 USB x 1, Diagnostic x 3
Wireless Signal Strength	Cellular/Wi-Fi x 3

Power Parameters

Input Current	UC-8112A-ME-T-LX: 500 mA @ 12 VDC All other models: 700 mA @ 12 VDC 700 mA @ 12 VDC 700 mA @ 12 VDC 700 mA @ 12 VDC
Input Voltage	12 to 36 VDC
Power Consumption	UC-8112A-ME-T-LX: 6 W All other models: 8 W 8 W 8 W 8 W

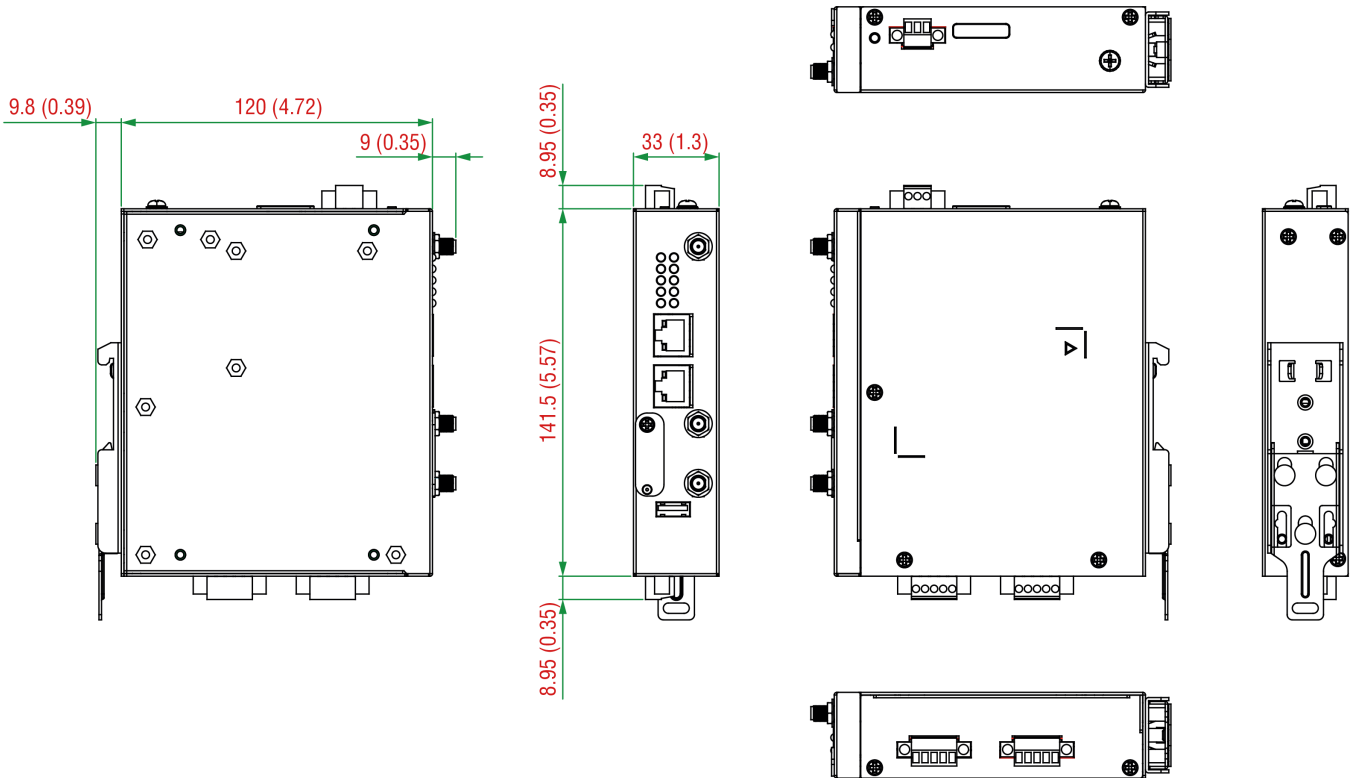
Reliability	
Alert Tools	External RTC (real-time clock)
Automatic Reboot Trigger	External WDT (watchdog timer)
Physical Characteristics	
Dimensions	141 x 125.6 x 33 mm (5.55 x 4.94 x 1.3 in)
Weight	550 g (1.22 lb)
Housing	Metal
Installation	DIN-rail mounting Wall mounting (with optional kit)
Environmental Limits	
Ambient Relative Humidity	5 to 95% (non-condensing)
Operating Temperature	UC-8112A-ME-T-LX: -40 to 85°C (-40 to 185°F) -40 to 70°C (-40 to 158°F) -40 to 70°C (-40 to 158°F) -40 to 70°C (-40 to 158°F)
Storage Temperature (package included)	-40 to 85°C (-40 to 185°F)
Shock	IEC 60068-2-27
Vibration	2 Grms @ IEC 60068-2-64, random wave, 5-500 Hz, 1 hr per axis (without USB devices attached)
Standards and Certifications	
EMC	EN 55032/35
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 5 GHz: 3 V/m IEC 61000-4-4 EFT: Power: 1 kV; Signal: 0.5 kV IEC 61000-4-6 CS: 3 V IEC 61000-4-5 Surge: Power: 0.5 kV; Signal: 1 kV IEC 61000-4-8 PFMF
Safety	UL 62368-1, EN 62368-1
Hazardous Locations	Class I Division 2 ATEX IECEX
Carrier Approvals	AT&T Verizon
Green Product	RoHS, CRoHS, WEEE
MTBF	
Time	UC-8112A-ME-T-LX: 868,326 hrs 677,570 hrs 677,570 hrs 677,570 hrs
Standards	Telcordia (Bellcore) Standard TR/SR
Warranty	
Warranty Period	5 years
Details	See www.moxa.com/warranty

Package Contents

Device	1 x UC-8100A-ME-T Series computer
Cable	1 x console cable
Documentation	1 x quick installation guide 1 x warranty card
Installation Kit	1 x DIN-rail kit (preinstalled) 1 x power jack

Dimensions

Unit: mm (inch)



Ordering Information

Model Name	CPU	RAM	Storage	LTE	Operating Temp.
UC-8112A-ME-T-LX	1 GHz	1 GB	8 GB	-	-40 to 85°C
UC-8112A-ME-T-LX-US	1 GHz	1 GB	8 GB	US Region	-40 to 70°C
UC-8112A-ME-T-LX-EU	1 GHz	1 GB	8 GB	EU Region	-40 to 70°C
UC-8112A-ME-T-LX-AP	1 GHz	1 GB	8 GB	APAC Region	-40 to 70°C

Accessories (sold separately)

Power Adapters

PWR-12150-AU-SA-T	Locking barrel plug, 12 VDC, 1.5 A, 100 to 240 VAC, Australia (AU) plug, -40 to 75°C operating temperature
PWR-12150-UK-SA-T	Locking barrel plug, 12 VDC, 1.5 A, 100 to 240 VAC, United Kingdom (UK) plug, -40 to 75°C operating temperature
PWR-12150-CN-SA-T	Locking barrel plug, 12 VDC, 1.5 A, 100 to 240 VAC, China (CN) plug, -40 to 75°C operating temperature

PWR-12150-EU-SA-T	Locking barrel plug, 12 VDC, 1.5 A, 100 to 240 VAC, Continental Europe (EU) plug, -40 to 75°C operating temperature
PWR-12150-USJP-SA-T	Locking barrel plug, 12 VDC 1.5 A, 100 to 240 VAC, United States/Japan (US/JP) plug, -40 to 75°C operating temperature

Cables

CBL-F9DPF1x4-BK-100	Console cable with 4-pin connector, 1 m
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Antennas

ANT-LTE-OSM-03-3m BK	700-2700 MHz, multi-band antenna, specifically designed for 2G, 3G, and 4G applications, 3 m cable
ANT-LTE-OSM-06-3m BK MIMO	Multiband antenna with screw-fastened mounting option for 700-2700/2400-2500/5150-5850 MHz frequencies
ANT-LTE-ASM-05 BK	704-960/1710-2620 MHz, LTE stick antenna, 5 dBi
ANT-LTE-ASM-04 BK	704-960/1710-2620 MHz, LTE omni-directional stick antenna, 4.5 dBi
ANT-LTEUS-ASM-01	GSM/GPRS/EDGE/UMTS/HSPA/LTE, omni-directional rubber duck antenna, 1 dBi

DIN-Rail Mounting Kits

UC-8100A-ME DIN-Rail Kit	DIN-rail mounting kit for UC-8100A-ME-T Series
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Wall-Mounting Kits

UC-8100A-ME Wall Mount Kit	Wall-mounting kit for UC-8100A-ME-T Series
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