

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-PCle 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



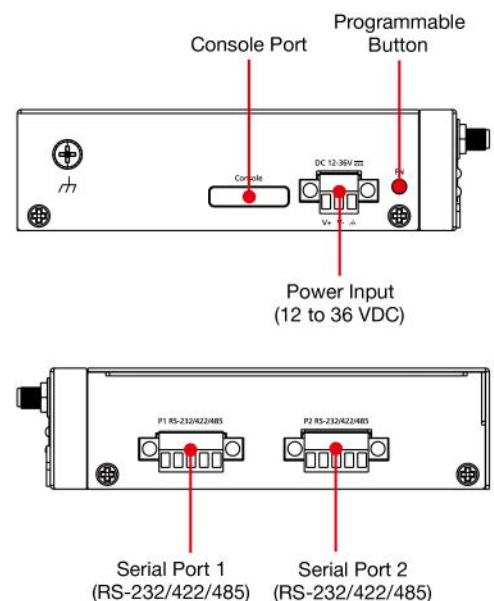
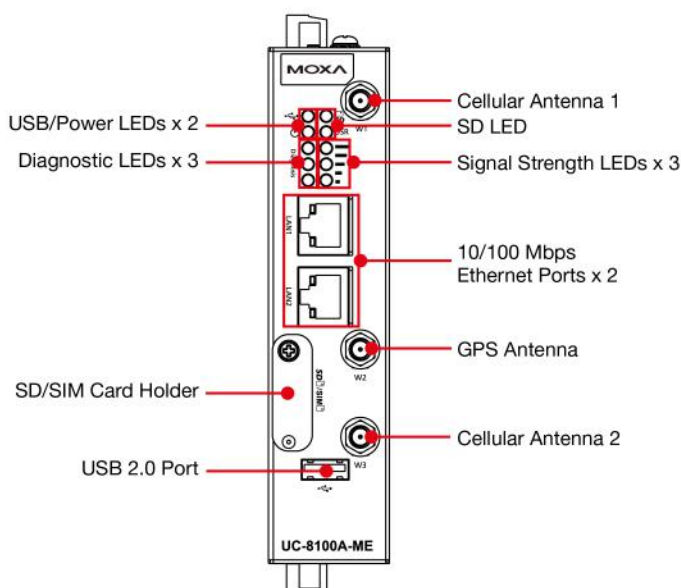
Introduction

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)
-------------------------------	-------------------

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 ADDIC (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	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 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) 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) 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) 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)
--------------	--

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

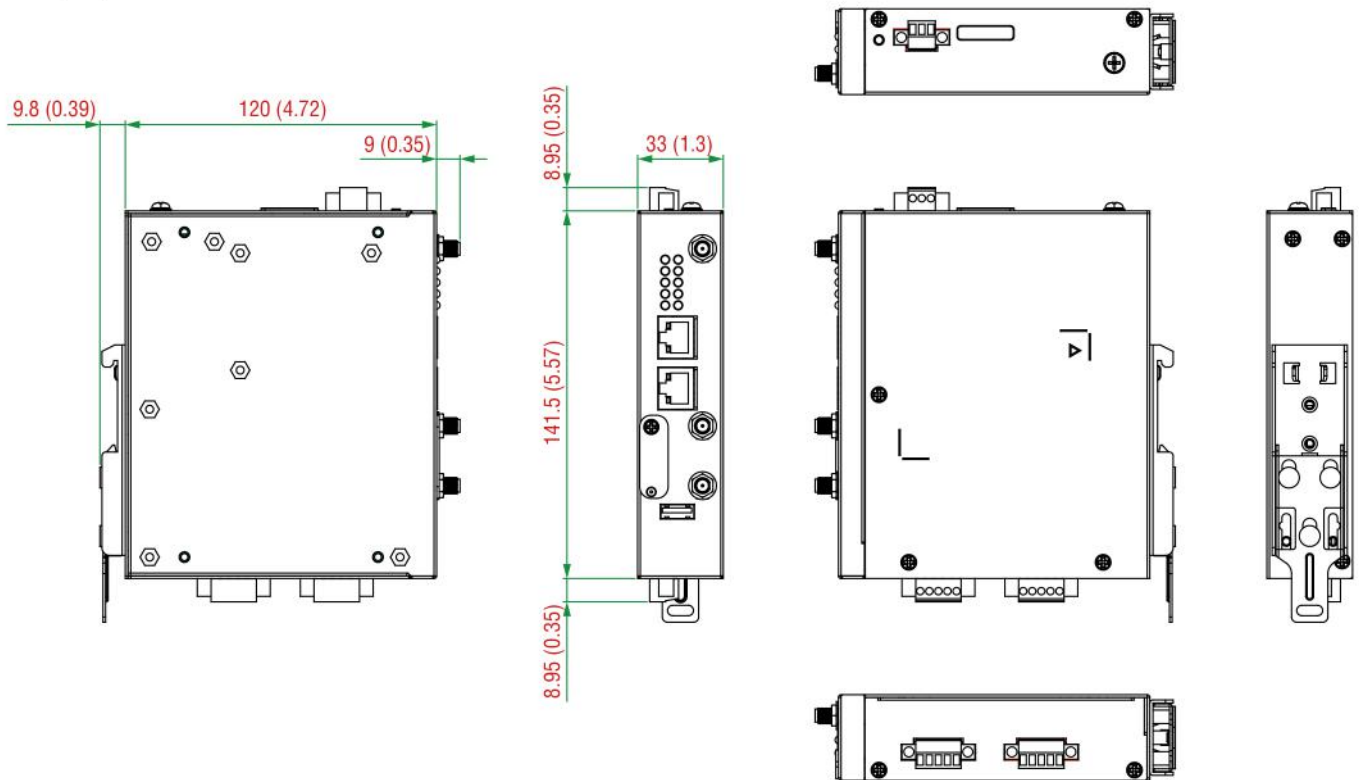
Reliability	
Alert Tools	External RTC (real-time clock)
Automatic Reboot Trigger	External WDT (watchdog timer)
Physical Characteristics	
Dimensions	141 x 125.6 x 33 mm (5.55 x 4.94 x 1.3 in)
Weight	550 g (1.22 lb)
Housing	Metal
Installation	DIN-rail mounting Wall mounting (with optional kit)
Environmental 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
---------------------	---

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
--------------------------	--

Wall-Mounting Kits

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

© Moxa Inc. All rights reserved. Updated Jul 20, 2023.

This document and any portion thereof may not be reproduced or used in any manner whatsoever without the express written permission of Moxa Inc. Product specifications subject to change without notice. Visit our website for the most up-to-date product information.