UC-8100A-ME-T Series

Arm-based wireless-enabled DIN-rail industrial computer with 2 serial ports and 2 Ethernet ports

Features and Benefits

- Armv7 Cortex-A8 1000 MHz processor
- Moxa Industrial Linux with 10-year long-term support
- 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
- -40 to 70°C wide-temperature range with LTE enabled
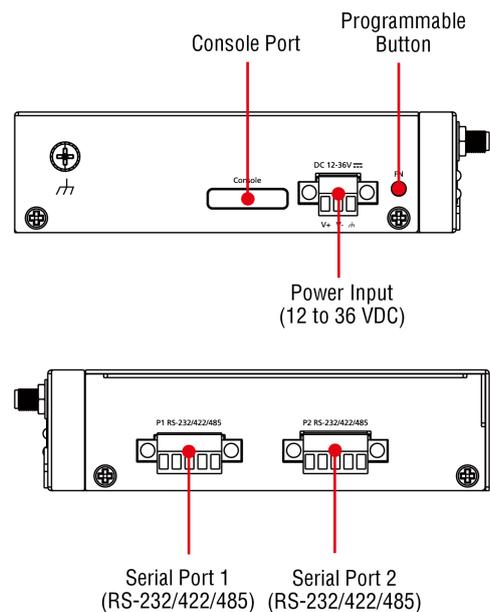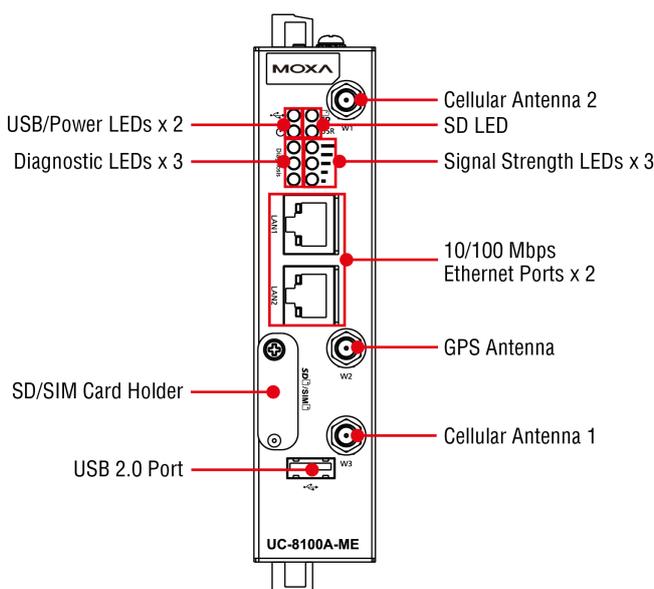
Certifications

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
Pre-installed OS	Moxa Industrial Linux (Debian 9, Kernel 4.4)
DRAM	1 GB DDR3
Storage Pre-installed	8 GB eMMC
Storage Slot	SD slots x 1

Computer Interface

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

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

Ethernet Interface

Ethernet Ports	Auto-sensing 10/100 Mbps ports (RJ45 connector) x 2
Magnetic Isolation Protection	1.5 kV (built-in)

Serial Interface

Data Bits	5, 6, 7, 8
Parity	None, Even, Odd, Space, Mark
Stop Bits	1, 1.5, 2

Serial Signals

RS-232	TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND
RS-422	Tx+, Tx-, Rx+, Rx-, GND
RS-485-2w	Data+, Data-, GND
RS-485-4w	Tx+, Tx-, Rx+, Rx-, GND

Cellular Interface

Band Options (US)	UC-8112A-ME-T-LX-US: LTE Band 2 (1900 MHz) / LTE Band 4 (1700 MHz) / LTE Band 5 (850 MHz) / LTE Band 13 (700 MHz) / LTE Band 17 (700 MHz) UC-8112A-ME-T-LX-US: UMTS/HSPA 850 MHz / 1900 MHz
Band Options (EU)	UC-8112A-ME-T-LX-EU: LTE Band 1 (2100 MHz) / LTE Band 3 (1800 MHz) / LTE Band 5 (850 MHz) / LTE Band 7 (2600 MHz) / LTE Band 8 (900 MHz) / LTE Band 20 (800 MHz) UC-8112A-ME-T-LX-EU: UMTS/HSPA 850 MHz / 900 MHz / 1900 MHz / 2100 MHz
Band Option (APAC)	UC-8112A-ME-T-LX-AP: LTE Band 1 (2100 MHz) / LTE Band 3 (1800 MHz) / LTE Band 5 (850 MHz) / LTE Band 7 (2600 MHz) / LTE Band 8 (900 MHz) / LTE Band 28 (700 MHz) UC-8112A-ME-T-LX-AP: UMTS/HSPA 850 MHz / 900 MHz / 1900 MHz / 2100 MHz

Power Parameters

Input Current	700 mA @ 12 VAC
Input Voltage	12 to 36 VDC
Power Consumption	6 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)
Housing	Metal
Installation	DIN-rail mounting, Wall mounting (with optional kit)
Weight	550 g (1.22 lb)

Environmental Limits

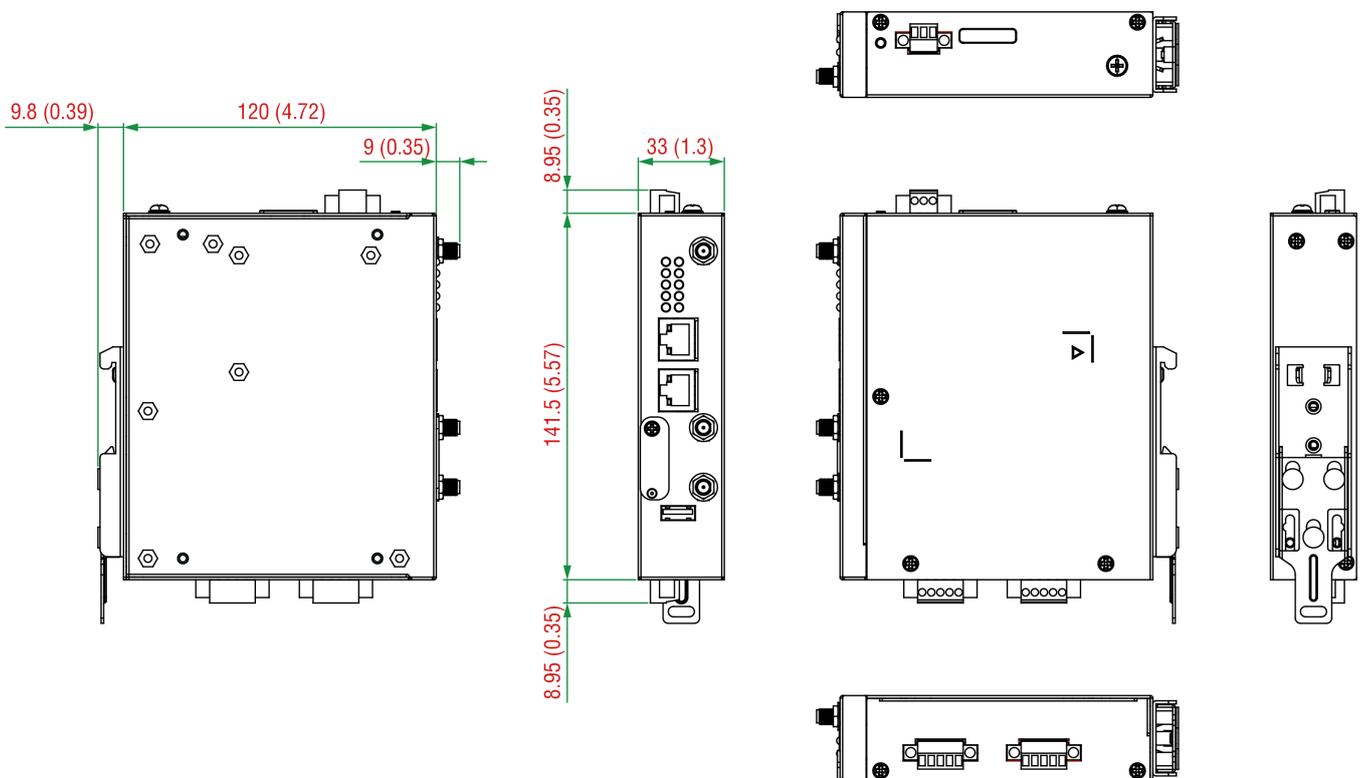|	
Ambient Relative Humidity	5 to 95% (non-condensing)
Operating Temperature	UC-8112A-ME-T-LX: -40 to 85°C (-40 to 185°F) UC-8112A-ME-T-LX-AP: -40 to 70°C (-40 to 158°F) UC-8112A-ME-T-LX-US: -40 to 70°C (-40 to 158°F) UC-8112A-ME-T-LX-EU: -40 to 70°C (-40 to 158°F)
Storage Temperature (package included)	-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 any 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[1]
Green Product	RoHS, CRoHS, WEEE

MTBF

Time	UC-8112A-ME-T-LX: 868,326 hrs UC-8112A-ME-T-LX-US: 677,570 hrs UC-8112A-ME-T-LX-EU: 677,570 hrs UC-8112A-ME-T-LX-AP: 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)

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1.   Class 1 Division 2, ATEX, and IECEx certifications are underway. Please contact a Moxa sales representative for details.

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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-24270-DT-S1	Power adapter, input voltage 90 to 264 VAC, output voltage 24 V with 2.5 A DC load

Power Cords

PWC-C7AU-2B-183	Power cord with Australian (AU) plug, 2.5A/250V, 1.83 m
PWC-C7EU-2B-183	Power cord with Continental Europe (EU) plug, 2.5A/250V, 1.83 m
PWC-C7CN-2B-183	Power cord with two-prong China (CN) plug, 1.83 m
PWC-C7US-2B-183	Power cord with United States (US) plug, 10A/125V, 1.83 m
PWC-C7UK-2B-183	Power cord with United Kingdom (UK) plug, 2.5A/250V, 1.83 m

Cables

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

Antennas

ANT-LTE-OSM-03-3m BK	Multi-band antenna that covers 700-2700 MHz. Specially designed for 2G, 3G, and 4G applications. Magnetic mounting is available
ANT-GPS-OSM-05-3M BK	Active GPS antenna, 26 dBi, 1572 MHz, L1 band antenna for GPS
ANT-LTE-OSM-06-3m BK MIMO	Multi-band antenna that covers 700-2700/2400-2500/5150-5850 MHz frequencies. Screw-fastened mounting and full IP67 waterproofing are available.
ANT-LTE-ASM-05 BK	LTE stick antenna that covers 704-960/1710-2620 MHz with a gain of 5 dBi.
ANT-LTE-ASM-04 BK	LTE Stick antenna that covers 704-960/1710-2620 MHz providing omnidirectional radiation with a gain of 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 kit with screws. Note: The DIN-rail kit is included in the UC-8100A-ME-T series package.

Wall-Mounting Kits

UC-8100A-ME Wall-Mounting Kit	Wall-mounting kit with screws