UC-8100A-ME-T Series

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

Azure Certified Device

aws qualified device
Internet of things

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

- 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
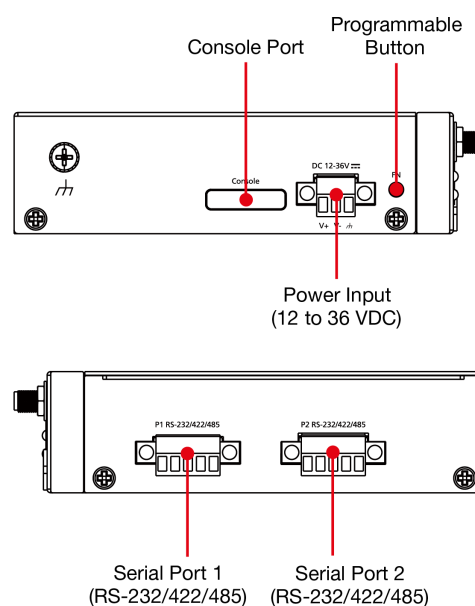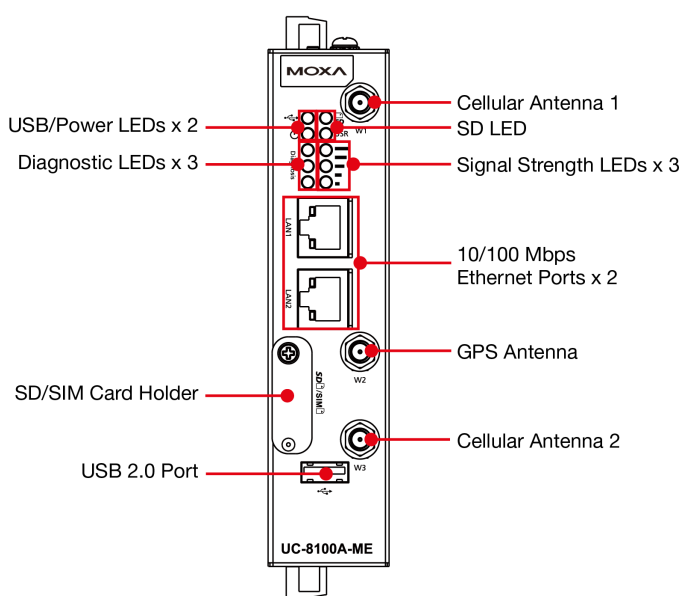
UL LISTED   IEC   IECEx   Ex

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 to help 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

USB/Power LEDs x 2
Diagnostic LEDs x 3

Cellular Antenna 1
SD LED
Signal Strength LEDs x 3

10/100 Mbps Ethernet Ports x 2

GPS Antenna

SD/SIM Card Holder

Cellular Antenna 2

USB 2.0 Port

UC-8100A-ME

Console Port
Programmable Button

Power Input (12 to 36 VDC)

Serial Port 1 (RS-232/422/485)
Serial Port 2 (RS-232/422/485)

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 Channels	RS-232/422/485 ports x 2 (software-selectable, DB9 male connector)
Expansion Slots	mPCIe slots x 1
Console Port	RS-232 (TxD, RxD, GND), 4-pin header output (115200, n, 8, 1)
USB 2.0	USB 2.0 hosts x 1, type-A connectors
Number of SIMs	1
SIM Format	Mini
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 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

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	500 mA @ 12 VDC
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)
Weight	550 g (1.22 lb)
Housing	Metal
Installation	DIN-rail mounting Wall mounting (with optional kit)

Environmental Limits

Operating Temperature	-40 to 85°C (-40 to 185°F)
Storage Temperature (package included)	-40 to 85°C (-40 to 185°F)
Ambient Relative Humidity	5 to 95% (non-condensing)
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 61000-4-5 Surge: Power: 0.5 kV; Signal: 1 kV IEC 61000-4-6 CS: 3 V IEC 61000-4-8 PFMF
Hazardous Locations	Class I Division 2 ATEX IECEx
Safety	UL 62368-1, EN 62368-1
Carrier Approvals	AT&T Verizon
Green Product	RoHS, CRoHS, WEEE

MTBF

Time	868,326 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
Installation Kit	1 x DIN-rail kit (preinstalled) 1 x power jack
Documentation	1 x quick installation guide 1 x warranty card

Dimensions

Unit: mm (inch)
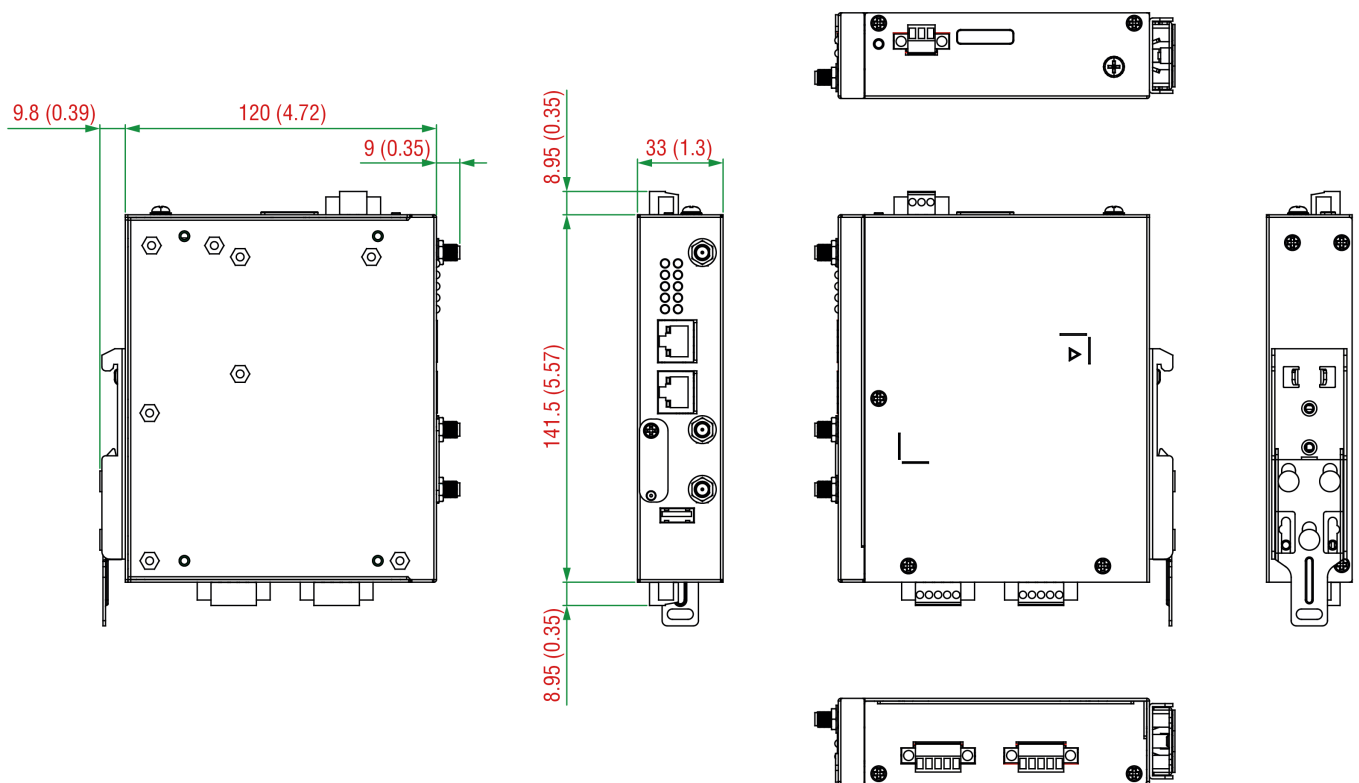
Ordering Information

Model Name	CPU	RAM	Storage	LTE	Operating Temp.
UC-8112A-ME-T-LX	1 GHz	1 GB	8 GB	–	-40 to 85°C

Accessories (sold separately)

Power Adapters

PWR-12150-AU-SA-T	Locking barrel plug, 12 VDC, 1.5 A, 100 to 240 VAC, 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, 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, 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, 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, US/JP plug, -40 to 75°C operating temperature

Cables

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

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

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