

# UC-2100-W Series

Arm Cortex-A8 1 GHz palm-sized IIoT gateways with built-in LTE Cat. M1/NB-IoT module



## Features and Benefits

- Armv7 Cortex-A8 1000 MHz processor
- Integrated LTE NB-IoT/Cat. M1 module with global band support
- LTE-ready computer with Verizon/AT&T certification and industrial-grade CE/FCC/UL certifications
- Dual-SIM slots
- Moxa Industrial Linux with 10-year long-term support
- Dual auto-sensing Ethernet ports (10/100 Mbps and 10/100/1000 Mbps)
- Dual CAN ports with industrial CAN 2.0 A/B protocol supported
- microSD socket for storage expansion
- Programmable LEDs and a programmable button for easy installation and maintenance
- -40 to 75°C operating temperature range

## Certifications



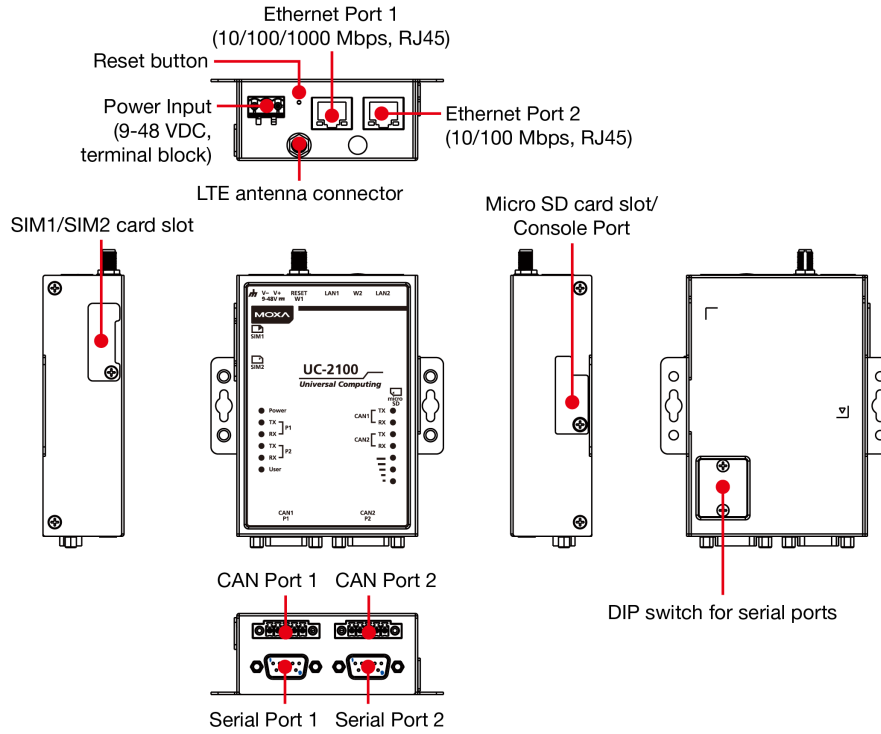
## Introduction

The UC-2100-W Series computing platform is designed for embedded data acquisition and processing applications. The computer comes with up to two software selectable RS-232/422/485 full-signal serial ports and single or dual LAN ports. This palm-sized series of Arm-based computing platforms includes a variety of models for a wide range of interface requirements, such as serial and LAN ports, and wireless connections. The versatile communication capabilities allow users to efficiently adapt the UC-2100-W Series for a variety of complex communications solutions running on a compact palm-sized computer.

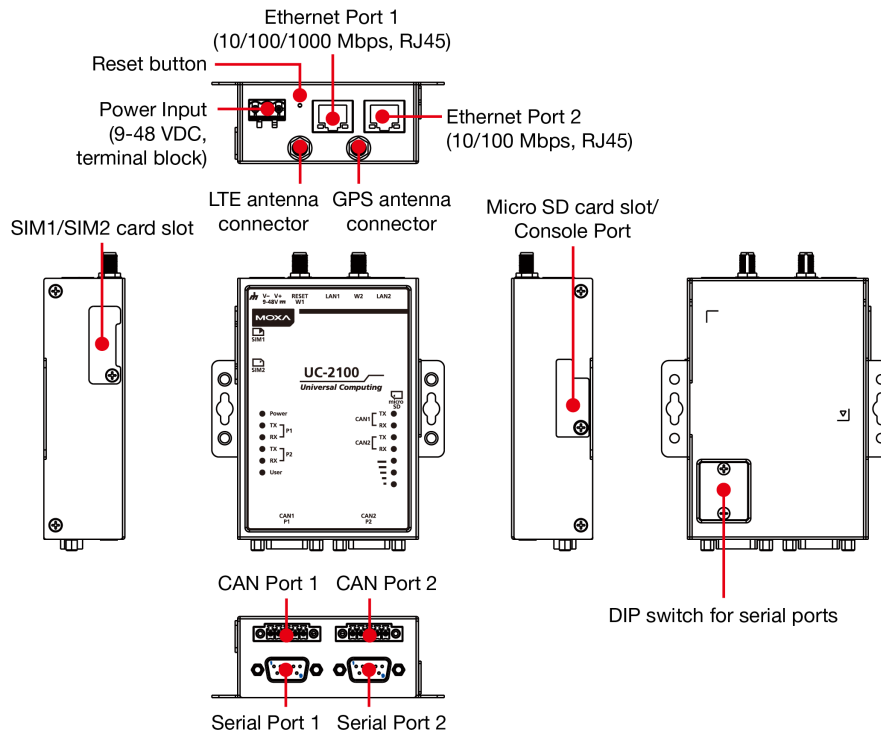
The UC-2100-W Series has a built-in Cortex-A8 Arm-based processor that has been optimized for a variety of industrial solutions. With flexible interface options, this tiny embedded computer is a reliable and secure gateway for data acquisition and processing at field sites and is a useful communication platform for many other large-scale deployments. Models designed for wide-temperature applications are available for extreme environments such as those found in the Oil and Gas industry. Furthermore, all models use Moxa's industrial-grade Linux platform, which provides optimized software features and superior long-term support.

## Appearance

### UC-2114



### UC-2116



## Specifications

### Computer

CPU	Armv7 Cortex-A8 1 GHz
DRAM	512 MB DDR3

Storage Pre-installed	8 GB eMMC
Pre-installed OS	Moxa Industrial Linux (Debian 9, Kernel 4.4) See <a href="http://www.moxa.com/MIL">www.moxa.com/MIL</a>

### Computer Interface

Storage Slot	Micro SD Slot x 1
Ethernet Ports	Auto-sensing 10/100 Mbps ports (RJ45 connector) x 1 Auto-sensing 10/100/1000 Mbps ports (RJ45 connector) x 1
Serial Ports	RS-232/422/485 ports x 2, software selectable (DB9 male)
CAN Ports	CAN 2.0 A/B x 2 (5-pin terminal block)
Cellular Antenna Connector	SMA x 1
GPS Antenna Connector	UC-2116-T-LX: SMA x 1
Number of SIMs	2
SIM Format	Nano
Console Port	RS-232 (TxD, RxD, GND), 4-pin header output (115200, n, 8, 1)
Buttons	Reset button

### Ethernet Interface

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

Baudrate	50 bps to 921.6 kbps
Data Bits	5, 6, 7, 8
Stop Bits	1, 1.5, 2
Parity	None, Even, Odd, Space, Mark
Pull High/Low Resistor for RS-485	1 kilo-ohm, 150 kilo-ohms
ESD Protection	4 kV, for all signals
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, 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

### CAN Interface

Industrial Protocols	CAN 2.0A, CAN 2.0B
Baudrate	10 to 1000 kbps
Isolation	2 kV (built-in)
Signals	GND, CAN_L, CAN_SHLD, CAN_H, CAN_V+

## Cellular Interface

Band Options	LTE Bands: Band 1 (2100 MHz) / Band 2 (1900 MHz) / Band 3 (1800 MHz) / Band 4 (1700 MHz) / Band 5 (850 MHz) / Band 8 (900 MHz) / Band 12 (700 MHz) / Band 13 (700 MHz) / Band 18 (850 MHz) / Band 19 (850 MHz) / Band 20 (800 MHz) / Band 25 (1900 MHz) / Band 26 (850 MHz) / Band 28 (700 MHz)  Carrier Approval: Verizon, AT&T
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## LED Indicators

System	Power x 1 Programmable x 1
LAN	2 per port (10/100 Mbps)
Serial	2 per port (Tx, Rx)
Wireless Signal Strength	3
CAN	2 per port (Tx, Rx)

## Power Parameters

Input Voltage	9 to 48 VDC
Power Consumption	5.8 W
Input Current	0.6 A @ 9 VDC, 0.12 A @ 48 VDC

## Reliability

Alert Tools	External RTC (real-time clock)
Automatic Reboot Trigger	External WDT (watchdog timer)

## Physical Characteristics

Housing	Metal
Dimensions (with ears)	111 x 99 x 34.5 mm (4.37 x 3.90 x 1.36 in)
Weight	396 g (0.87 lb)
Installation	Wall-mounting, DIN-rail mounting (with optional kit)

## Environmental Limits

Operating Temperature	-40 to 75°C (-40 to 167°F)
Storage Temperature (package included)	-40 to 85°C (-40 to 185°F)
Ambient Relative Humidity	5 to 95% (non-condensing)

## Standards and Certifications

Safety	EN 62368-1, IEC 62368-1, UL 62368-1
EMC	EN 55032/24
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 1 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
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)
Hazardous Locations	Class I Division 2, ATEX
Carrier Approvals	Verizon AT&T
Green Product	RoHS, CRoHS, WEEE

#### MTBF

Time	UC-2114-T-LX: 533,149 hrs UC-2116-T-LX: 496,650 hrs
Standards	Telcordia (Bellcore) Standard

#### Warranty

Warranty Period	5 years
Details	See <a href="http://www.moxa.com/warranty">www.moxa.com/warranty</a>

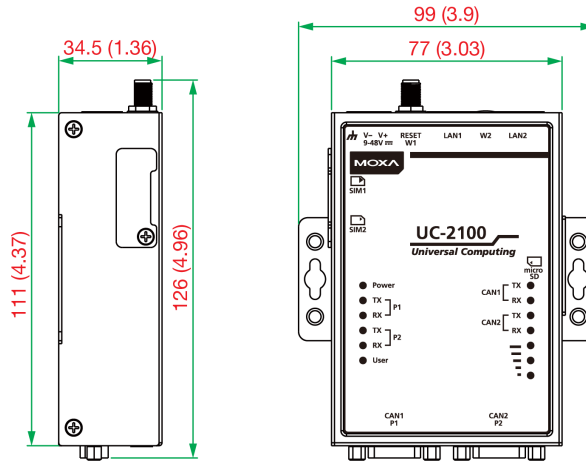
#### Package Contents

Device	1 x UC-2100-W Series computer
Installation Kit	1 x power jack
Cable	1 x console cable
Documentation	1 x quick installation guide 1 x warranty card

## Dimensions

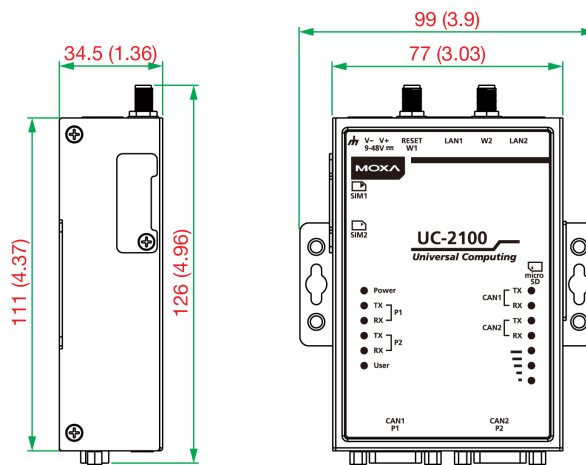
### UC-2114

Unit: mm (inch)



### UC-2116

Unit: mm (inch)



## Ordering Information

Model Name	CPU	RAM	Storage	Serial	Ethernet	CAN	Cellular	GPS	Operating Temp.
UC-2114-T-LX	1000 MHz	512 MB	8 GB	2	2 (1 Giga LAN)	2	NB-IoT/Cat. M1	-	-40 to 75°C
UC-2116-T-LX	1000 MHz	512 MB	8 GB	2	2 (1 Giga LAN)	2	NB-IoT/Cat. M1	Yes	-40 to 75°C

## Accessories (sold separately)

### Power Adapters

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
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-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-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-CN-SA-T	Locking barrel plug, 12 VDC, 1.5 A, 100 to 240 VAC, CN 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-LTEUS-ASM-01	GSM/GPRS/EDGE/UMTS/HSPA/LTE, 1 dBi, omnidirectional rubber-duck antenna
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ANT-LTE-OSM-03-3m BK	700-2700 MHz, multiband antenna, specifically designed for 2G, 3G, and 4G applications, 3 m cable
ANT-LTE-ASM-04 BK	704 to 960/1710 to 2620 MHz, LTE omnidirectional stick antenna, 4.5 dBi
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

#### DIN-Rail Mounting Kits

DK35A	DIN-rail mounting kit, 35 mm
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