

# UC-2100-W Series

*Arm-based wireless-enabled palm-sized industrial computer*



## Features and Benefits

- Armv7 Cortex-A8 1000 MHz processor
- Integrated LTE NB-IoT/Cat. M1 module with global band support
- 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



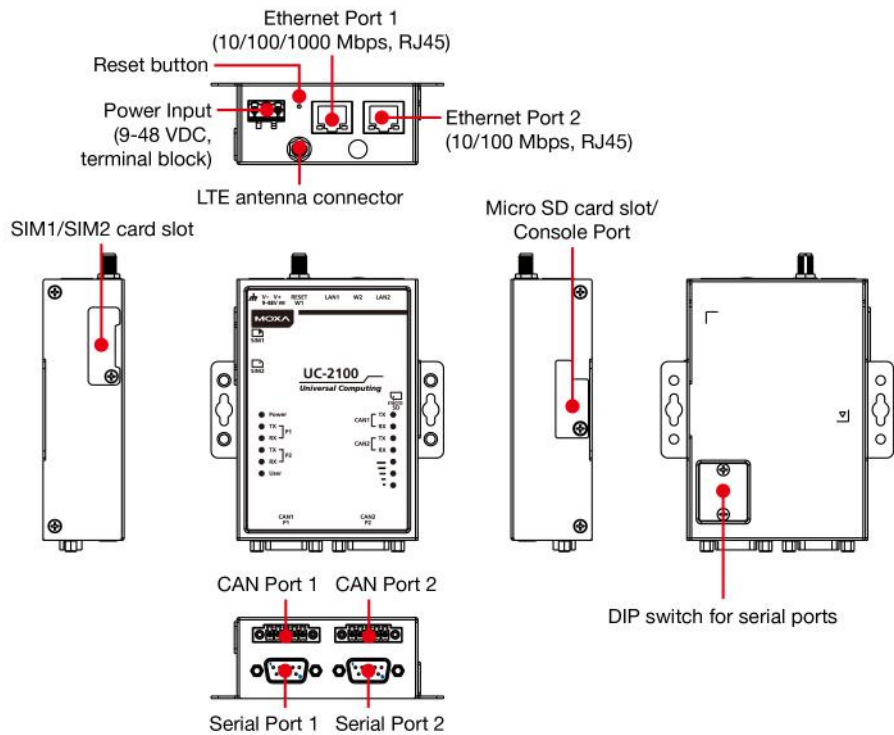
## Introduction

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.

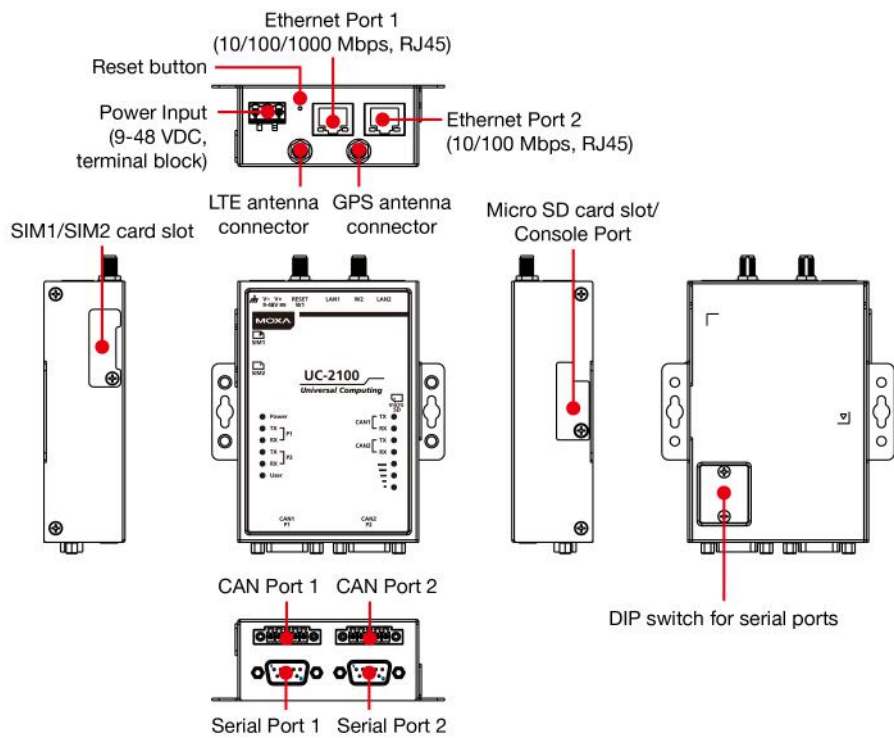
The UC-2100-W Series has a built-in Cortex-A8 Arm-based processor that has been optimized for a variety of industrial solutions. With flexible interface options, this tiny embedded computer is a reliable and secure gateway for data acquisition and processing at field sites and is a useful communication 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)  |
| <b>Computer Interface</b>         |   |
| Storage Slot                      | Micro SD Slot x 1   |
| Ethernet Ports                    | Auto-sensing 10/100 Mbps ports (RJ45 connector) x 1<br>Auto-sensing 10/100/1000 Mbps ports (RJ45 connector) x 1 |
| Serial Ports                      | RS-232/422/485 ports x 2, software-selectable (terminal block)  |
| CAN Ports                         | CAN 2.0 A/B x 2 (5-pin terminal block)  |
| Cellular Antenna Connector        | SMA x 1   |
| GPS Antenna Connector             | 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  |
| <b>Ethernet Interface</b>         |   |
| Magnetic Isolation Protection     | 1.5 kV (built-in)   |
| <b>Serial Interface</b>           |   |
| 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)                |
| <b>Serial Signals</b>             |   |
| 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   |
| <b>CAN Interface</b>              |   |
| Industrial Protocols              | CAN 2.0A, CAN 2.0B  |
| Baudrate                          | 10 to 1000 kbps   |
| Signals                           | GND, CAN_L, CAN_SHLD, CAN_H, CAN_V+   |
| Isolation                         | 2 kV (built-in)   |

## 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

## 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, 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, IECEx <sup>1</sup>   |
| Green Product       | RoHS, CRoHS, WEEE  |

#### MTBF

|           |  |
|-----------|--|
| Time      | UC-2114-T-LX : 533,149 hrs<br>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

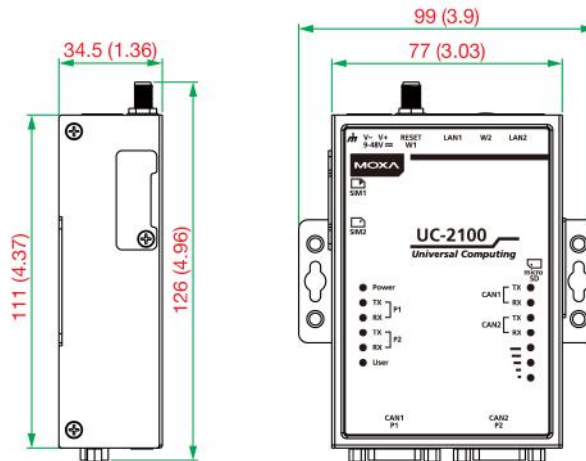
|                  |   |
|------------------|---|
| Device           | 1 x UC-2100-W Series computer                     |
| Installation Kit | 1 x power jack                                    |
| Cable            | 1 x console cable                                 |
| Documentation    | 1 x quick installation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

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

## Dimensions

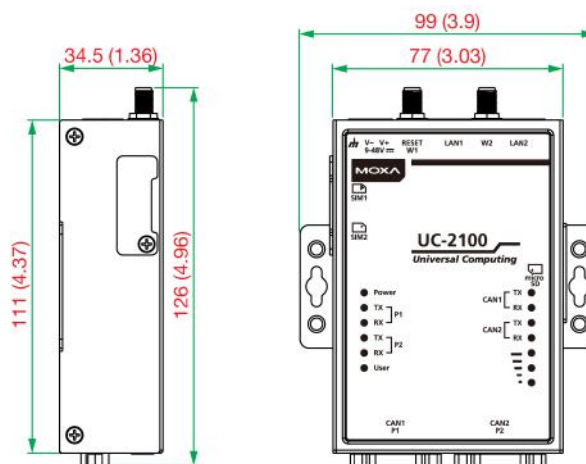
### UC-2114

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<br>(1 Giga LAN) | 2   | NB-IoT/<br>Cat. M1 | –   | -40 to 75°C     |
| UC-2116-T-LX | 1000 MHz | 512 MB | 8 GB    | 2      | 2<br>(1 Giga LAN) | 2   | NB-IoT/<br>Cat. M1 | Yes | -40 to 75°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-C7US-2B-183 | Power cord with United States (US) plug, 10A/125V, 1.83 m       |
| PWC-C7EU-2B-183 | Power cord with Continental Europe (EU) plug, 2.5A/250V, 1.83 m |
| PWC-C7UK-2B-183 | Power cord with United Kingdom (UK) plug, 2.5A/250V, 1.83 m     |
| PWC-C7AU-2B-183 | Power cord with Australian (AU) plug, 2.5A/250V, 1.83 m         |
| PWC-C7CN-2B-183 | Power cord with two-prong China (CN) plug, 1.83 m               |

### Cables

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

## Antennas

|                           |   |
|---------------------------|---|
| ANT-LTEUS-ASM-01          | GSM/GPRS/EDGE/UMTS/HSPA/LTE, omni-directional rubber duck antenna, 1 dBi  |
| ANT-GPS-OSM-05-3M BK      | Active GPS antenna, 26 dBi, 1572 MHz, L1 band antenna for GPS   |
| 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-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-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-LTE-ASM-05 BK         | LTE stick antenna that covers 704-960/1710-2620 MHz with a gain of 5 dBi.   |

## DIN-Rail Mounting Kits

|       |  |
|-------|--|
| DK35A | DIN-rail mounting brackets x 2, screws x 4 |
|-------|--|

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