

UC-3100 Series

Arm-based computing platform with wireless built in



Features and Benefits

- Armv7 Cortex-A8 1000 MHz processor
- Integrated Wi-Fi 802.11a/b/g/n and LTE Cat. 1 for the US, EU, APAC, and AUS regions
- Industrial CAN 2.0 A/B protocols supported
- Robust root file system to prevent the system from being bricked due to a firmware update failure
- -30 to 70°C system operating temperature
- Meets the EN 61000-6-2 and EN 61000-6-4 standards for industrial EMC applications
- Supports Linux real-time OS mode
- Moxa Industrial Linux with 10-year long-term support

Certifications



Introduction

Moxa's UC-3100 Series computers can be used as edge-field smart gateways for data pre-processing and transmission, as well as for other embedded data-acquisition applications. The UC-3100 Series includes three models, each supporting different wireless options and protocols. The UC-3100's advanced heat dissipation design makes it suitable for use in temperatures ranging from -30 to 70°C. In fact, the Wi-Fi and LTE connections can be used simultaneously in both cold and hot environments, allowing you to maximize your "data pre-processing" and "data transmission" capability in most harsh environments.

The UC-3100 is more than just a hardware solution. In order to offer a better user experience with a Moxa Arm-based computer, the UC-3100 supports the following software features, allowing you to use the most suitable configuration for your application.

- High VPN performance; greater than 70 Mbps Ethernet throughput with AES-256 encryption
- Robust file system to prevent the system from being bricked due to a firmware upgrade failure
- Cybersecurity auto-configuration system based on IEC 62443
- Real COM mode to provide a control interface to Moxa's NPort products

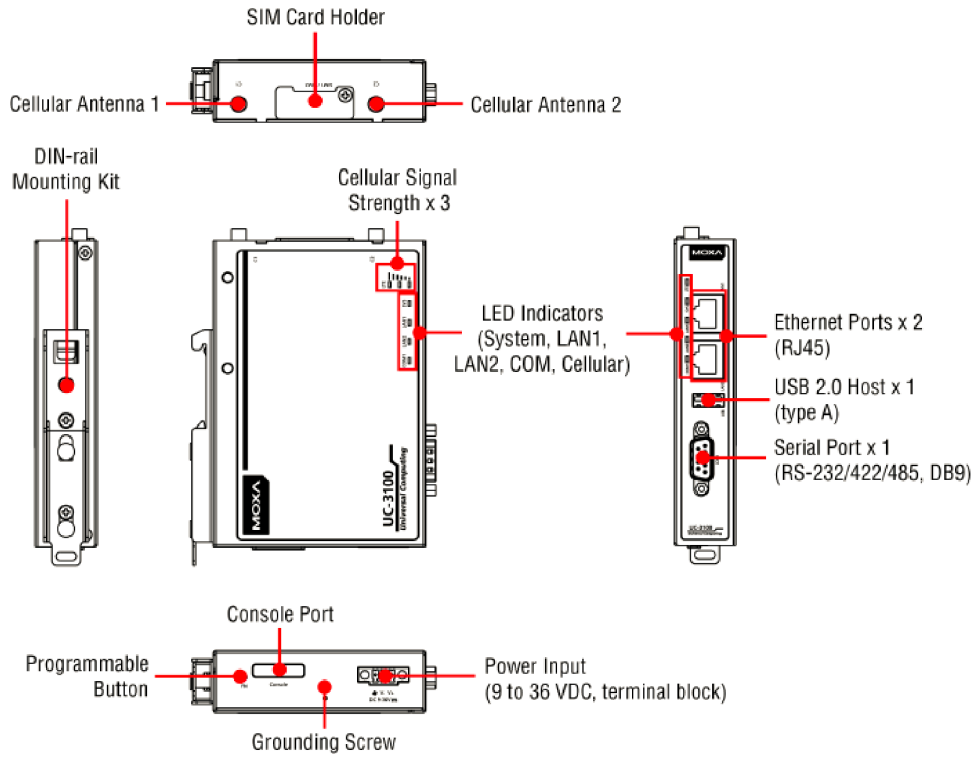
In addition, Moxa provides 10 years of Linux OS support from Moxa's customer support engineers. With a new version of the Debian repository released on average every 2 to 3 years, long-term Linux OS support helps you create a reliable solution that will be supported now and long into the future.

Applications

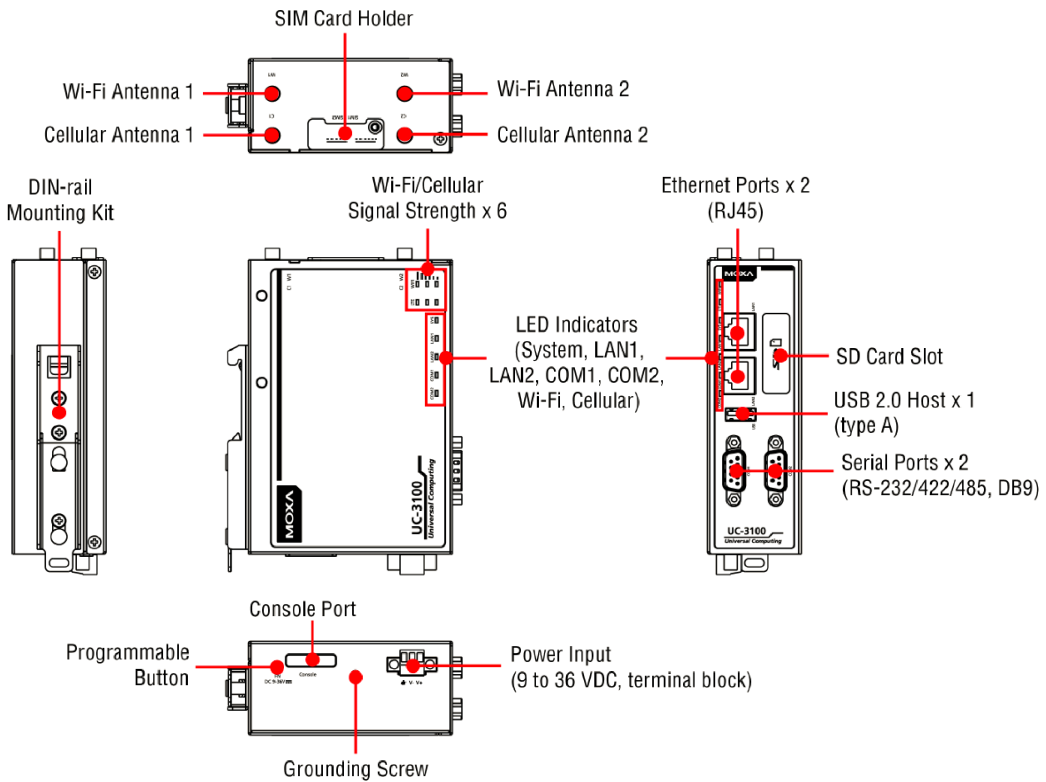
- Remote Terminal Unit (RTU)
- Data acquisition
- M2M communication (smart gateway)
- Digital signage
- Factory automation
- In-vehicle monitor/data logger (transportation)
- Programmable router
- Energy usage optimization
- Predictive maintenance
- Asset management

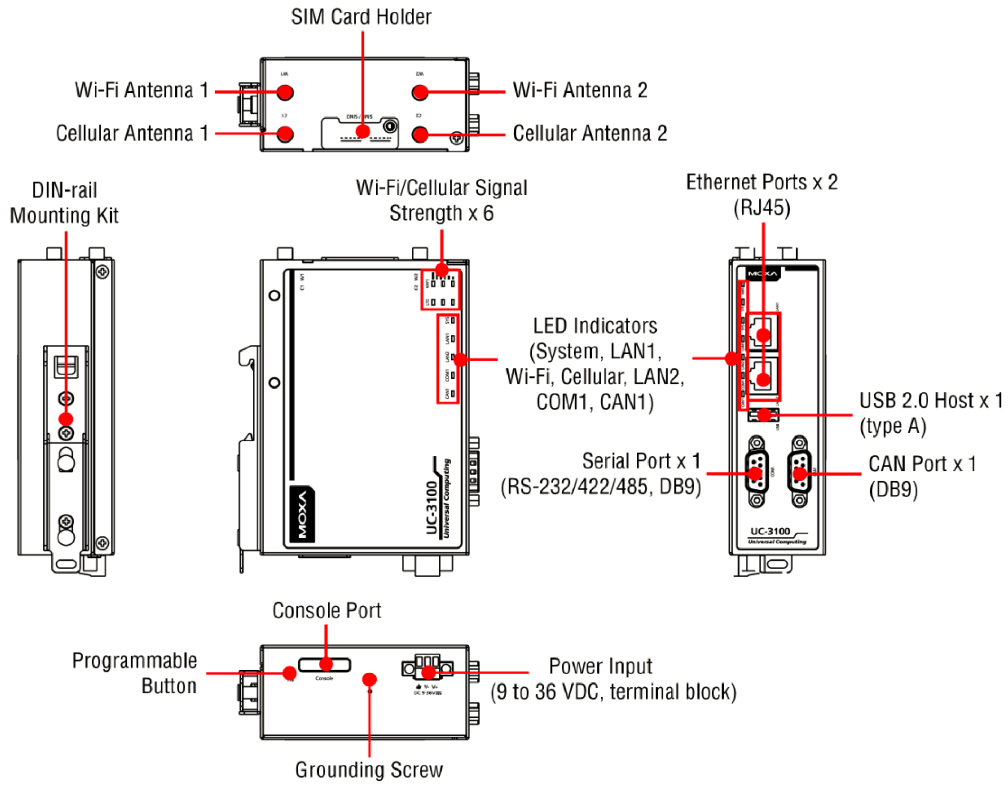
Appearance

UC-3101



UC-3111





Specifications

Computer

CPU	Arm v7 Cortex-A8 1 GHz
DRAM	512 MB DDR3
Supported OS	Linux Debian 9 kernel 4.4 (Moxa Industrial Linux)
Storage Pre-installed	4 GB eMMC
Storage Slot	SD slots x 1 for UC-3111 Series only

Computer Interface

Ethernet Ports	Auto-sensing 10/100 Mbps ports (RJ45 connector) x 2
Serial Ports	UC-3101/3121 Series: RS-232/422/485 ports x 1, software-selectable (DB9) UC-3111 Series: RS-232/422/485 ports x 2, software-selectable (DB9)
USB 2.0	USB 2.0 hosts x 1, type-A connectors
Cellular Antenna Connector	SMA x 2
Wi-Fi Antenna Connector	RP-SMA x 2 for UC-3111/UC-3121 Series only
SIM Format	Nano
Number of SIMs	2
Console Port	RS-232 (Tx, Rx, GND), 4-pin header output (115200, n, 8, 1)

Ethernet Interface

Magnetic Isolation Protection	1.5 kV (built-in)
-------------------------------	-------------------

Cellular Interface

Band Options	<p>US Models: LTE Bands: 2, 4, 5, 12 (700, 850, 1700/2100 (AWS) and 1900 MHz) UMTS Bands: 5, 4, 2 (WCDMA/FDD 850, 1700/2100 (AWS) and 1900 MHz) Carrier Approval: AT&T</p> <p>EU Models: LTE Bands: 1, 3, 8, 20, 28 (700, 800, 900, 1800, 2100 MHz) GSM Bands: 900 and 1800 MHz</p> <p>AU/NZ Models: LTE Bands 3, 5, 8, 28 (1800, 850, 900, 700 MHz) UMTS Bands 1, 5, 8 (WCDMA/FDD 2100, 850, 900 MHz)</p>
--------------	--

WLAN Interface

WLAN Standards	802.11a/b/g/n
Frequency Band	2.4 GHz 5 GHz

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

CAN Interface

Baudrate	10 to 1000 kbps
Connector	DB9 male
Isolation	2 kV (built-in)
Signals	CAN_H, CAN_L, CAN_GND, CAN_SHLD, CAN_V+, GND

LED Indicators

System	Power x 1
CAN	1 per port (Tx, Rx)
Serial	1 per port (Tx, Rx)
LAN	1 per port (10/100 Mbps)
Wireless Signal Strength	3 for UC-3101 Series 6 for UC-3111/UC-3121 Series

Power Parameters

Power Consumption	6 W (max.)
Input Current	500 mA @ 12 VDC
Input Voltage	9 to 36 VDC

Physical Characteristics

Housing	Metal
Installation	DIN-rail mounting, Wall mounting (with optional kit)
Dimensions (without ears)	128.5 x 89.1 x 26 mm (5.06 x 3.51 x 1.02 in) for UC-3101 Series 128.5 x 89.1 x 41 mm (5.06 x 3.51 x 1.61 in) for UC-3111/UC-3121 Series
Weight	Product only: 550 g (1.22 lb)

Environmental Limits

Operating Temperature	-30 to 70°C (-22 to 158°F)
Storage Temperature (package included)	-40 to 85°C (-40 to 185°F)
Ambient Relative Humidity	5 to 95% (non-condensing)
Vibration	5 Grms @ IEC 60068-2-64, random wave, 5-500 Hz, 1 hr per axis (without any USB devices attached)
Shock	IEC 60068-2-27

Standards and Certifications

EMC	EN 61000-6-2/-6-4
EMI	CISPR 22, 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: 10 V/m IEC 61000-4-4 EFT: Power: 2 kV; Signal: 1 kV IEC 61000-4-5 Surge: Power: 0.5 kV; Signal: 1 kV IEC 61000-4-6 CS: 10 V IEC 61000-4-8 PFMF
Cellular Standards	EN 301511 EN 3011908-1 MPE SAR EN 301489-1-1 EN 301489-24 AS/NZS S042 AS/NZS 60950
Radio Frequency	PTCRB, FCC
Safety	UL 60950-1
WLAN Standards	EN 301489-1-17 EN 300328 EN 301893
Green Product	RoHS, CRoHS, WEEE
Hazardous Locations	Class I Division 2, IECEx, ATEX
MTBF	
Time	600,447 hrs
Warranty	
Warranty Period	5 years
Details	See www.moxa.com/warranty

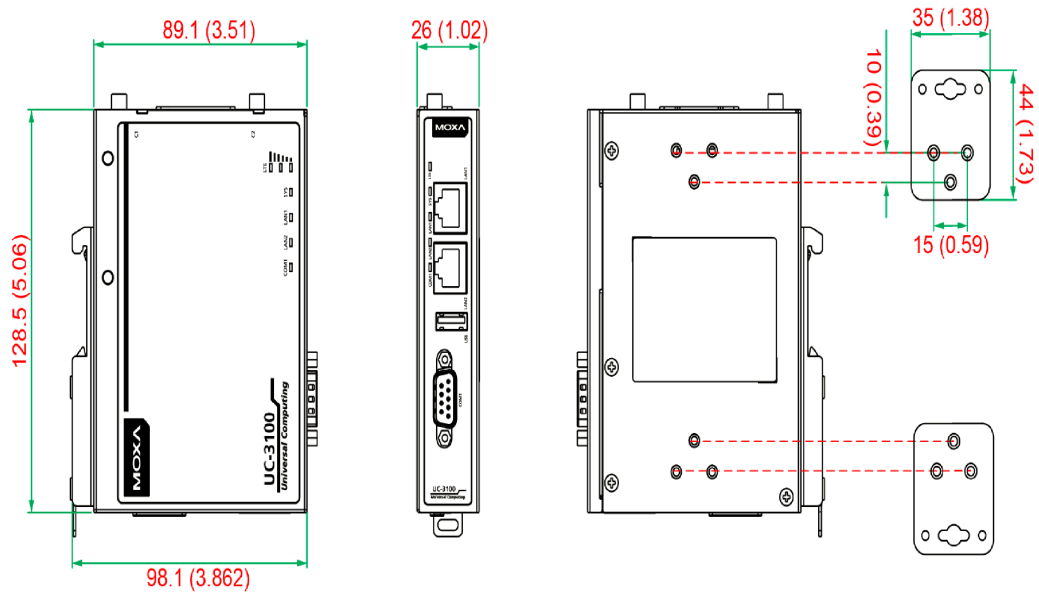
Package Contents

Device	1 x UC-3100 Series computer
Documentation	1 x quick installation guide 1 x warranty card
Cable	1 x terminal block to power jack converter

Dimensions

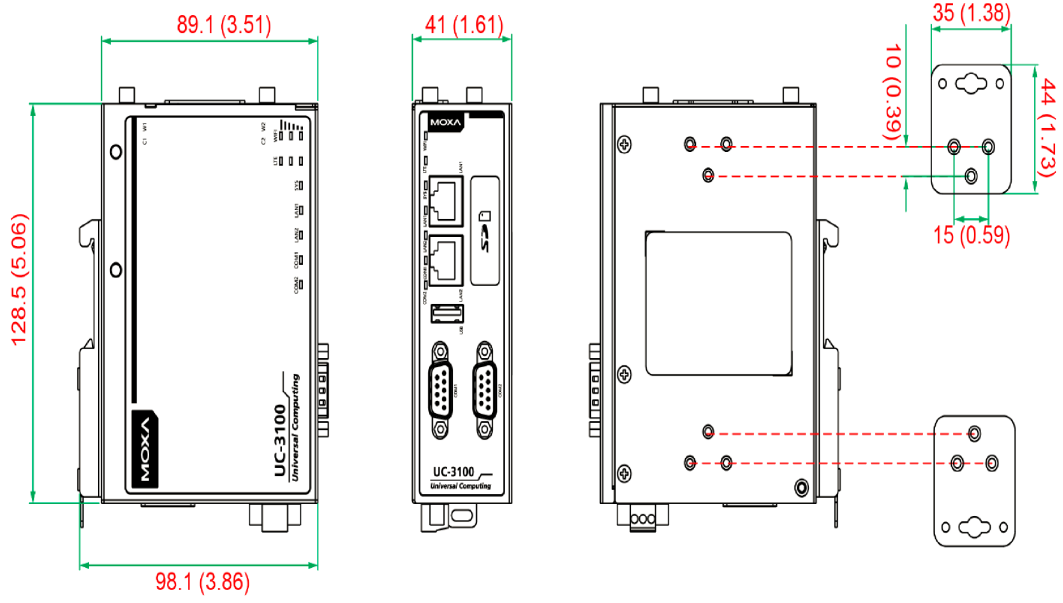
UC-3101

Unit: mm (inch)



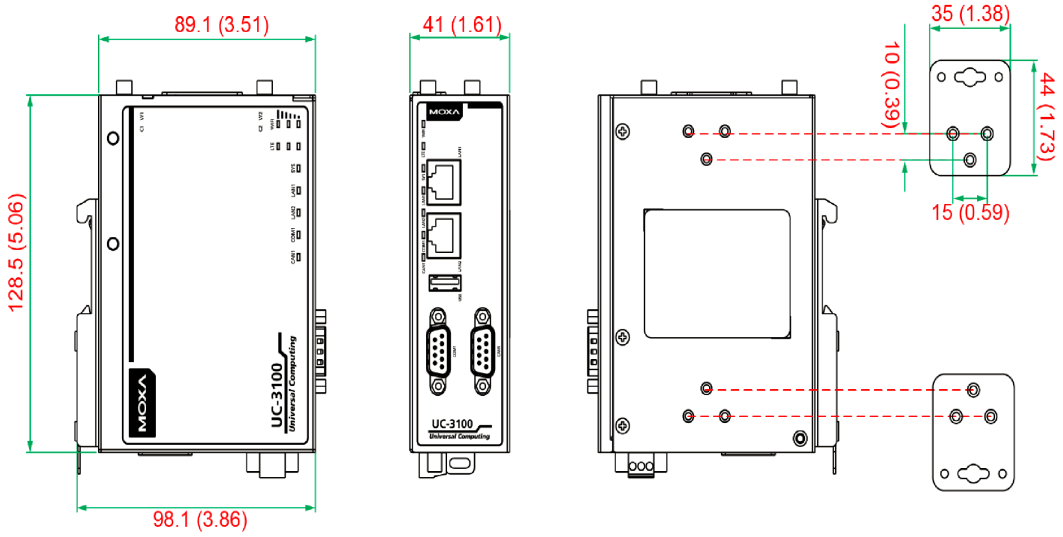
UC-3111

Unit: mm (inch)



UC-3121

Unit: mm (inch)



Ordering Information

Model Name	Carrier Approval	Wi-Fi	CAN	SD Slot	Serial	CPU	RAM	eMMC	USB	LTE	SIM Slots
UC-3101-T-US-LX	AT&T	–	–	–	1	1 GHz	512 MB	4 GB	1	Cat. 1	2
UC-3111-T-US-LX	AT&T	✓	–	1	2	1 GHz	512 MB	4 GB	1	Cat. 1	2
UC-3121-T-US-LX	AT&T	✓	1	–	1	1 GHz	512 MB	4 GB	1	Cat. 1	2
UC-3101-T-EU-LX	–	–	–	–	1	1 GHz	512 MB	4 GB	1	Cat. 1	2
UC-3111-T-EU-LX	–	✓	–	1	2	1 GHz	512 MB	4 GB	1	Cat. 1	2
UC-3121-T-EU-LX	–	✓	1	–	1	1 GHz	512 MB	4 GB	1	Cat. 1	2
UC-3101-T-AU-LX	–	–	–	–	1	1 GHz	512 MB	4 GB	1	Cat. 1	2
UC-3111-T-AU-LX	–	✓	–	1	2	1 GHz	512 MB	4 GB	1	Cat. 1	2
UC-3121-T-AU-LX	–	✓	1	–	1	1 GHz	512 MB	4 GB	1	Cat. 1	2

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-C7CN-2B-183	Power cord with two-prong China (CN) plug, 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-C7US-2B-183	Power cord with United States (US) plug, 10A/125V, 1.83 m

Cables

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

DIN-Rail Mounting Kits

UC-3100 DIN-Rail Kit	DIN-rail kit with screws
----------------------	--------------------------

Wall-Mounting Kits

UC-3100 Wall-Mounting Kit	Wall-mounting kit with screws
---------------------------	-------------------------------

Antennas

ANT-LTE-ASM-02	GPRS/EDGE/UMTS/HSPA/LTE, omni-directional rubber duck antenna, 2 dBi
ANT-WDB-ARM-02	2.4/5 GHz, omni-directional rubber duck antenna, 2 dBi, RP-SMA (male)
ANT-LTEUS-ASM-01	GSM/GPRS/EDGE/UMTS/HSPA/LTE, omni-directional rubber duck antenna, 1 dBi

© Moxa Inc. All rights reserved. Updated Aug 30, 2019.

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.