

UC-3400A Series

Arm Cortex-A53 quad-core 64-bit computers with wireless expansion capabilities



Features and Benefits

- Armv8 Cortex-A53 1.4 GHz processor
- Integrated 4G LTE Cat. 4 module with dual SIM and AT&T approval
- Wi-Fi 6 built-in
- 2 auto-sensing 10/100/1000 Mbps Ethernet ports
- CAN ports with 2-kV isolation protection
- Moxa Industrial Linux with 10-year superior long-term support
- Compliance with IEC 62443-4-2 Security Level 2 requirements
- CE/FCC/UL certifications
- -40 to 70°C operating temperature range

Certifications



Introduction

Moxa's UC-3400A Series computers can be used as edge gateways in the field for data pre-processing and transmission, as well as for other embedded data-acquisition applications. The series includes a diverse set of models, each supporting different wireless options and protocols. The UC-3400A's advanced heat-dissipation design makes it suitable for use in temperatures ranging from -40 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 data pre-processing and transmission capabilities of your applications in harsh operating environments.

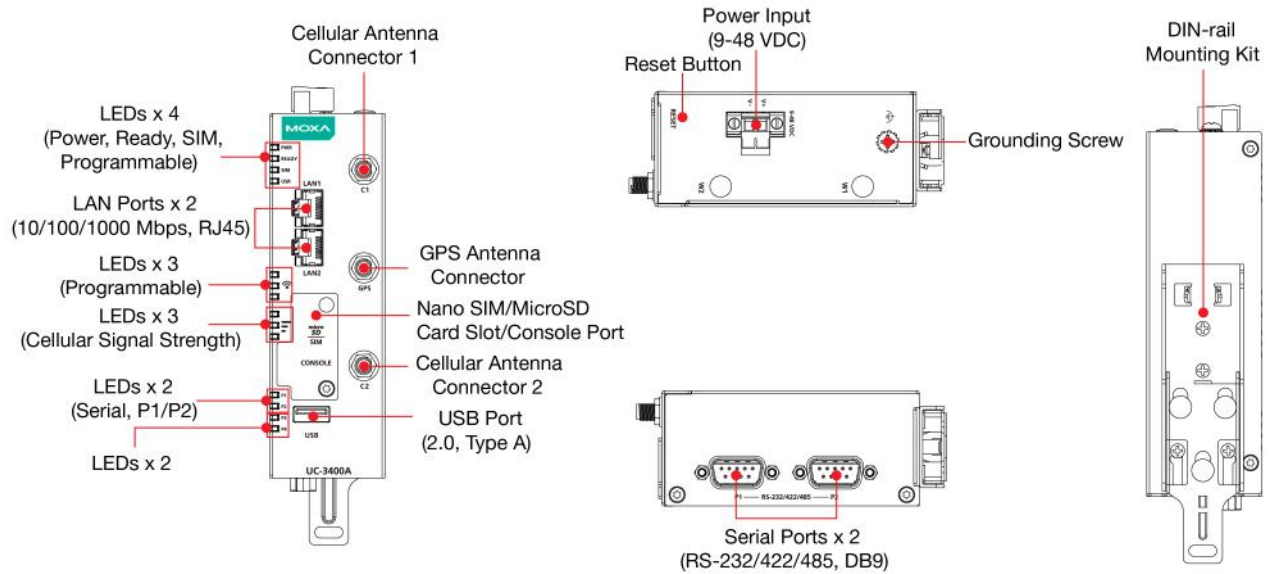
The UC-3400A is more than just a hardware solution. In order to offer a better user experience with a Moxa Arm-based computer, the UC-3400A comes equipped with Moxa Industrial Linux, a high-performance industrial-grade Linux distribution with long-term support that is developed by Moxa.

Applications

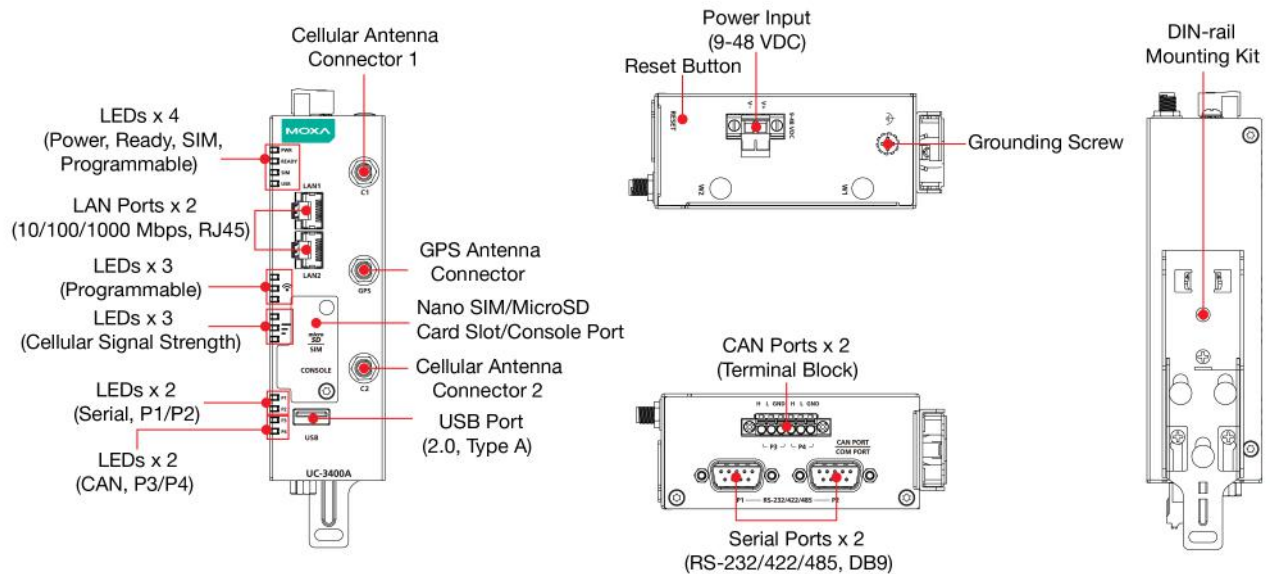
- Remote Terminal Unit (RTU)
- Data acquisition
- M2M communication (smart gateway)
- Digital signage
- Factory automation
- In-vehicle monitor/data logger (transportation)
- Programmable router
- Energy usage optimization
- Predictive maintenance
- Asset management

Appearance

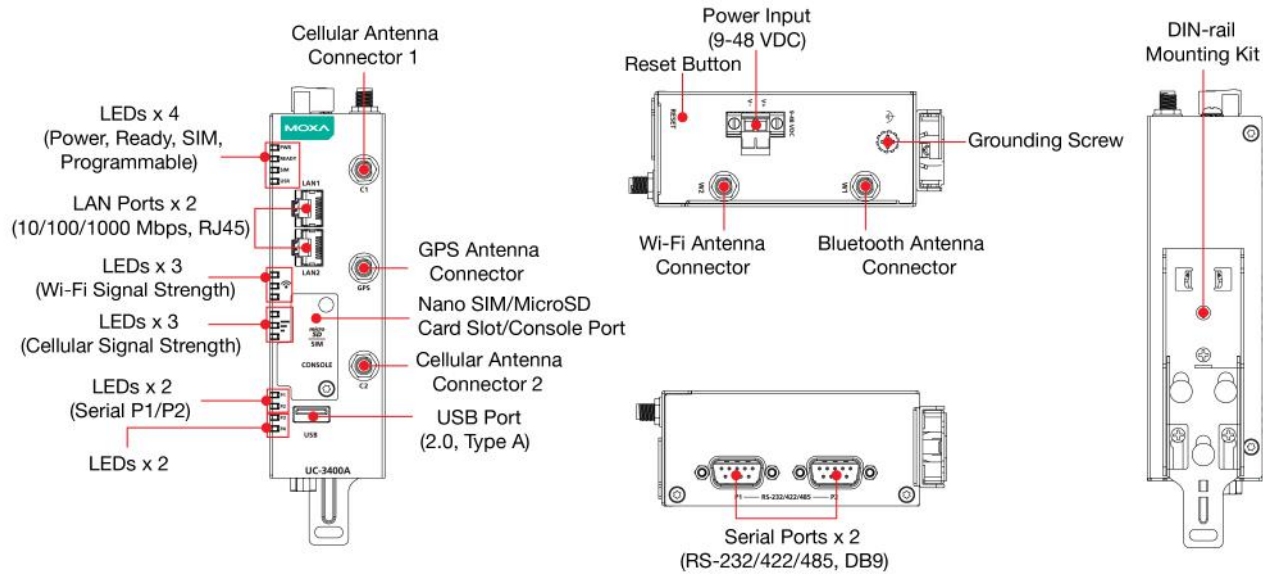
UC-3420A-T-LTE



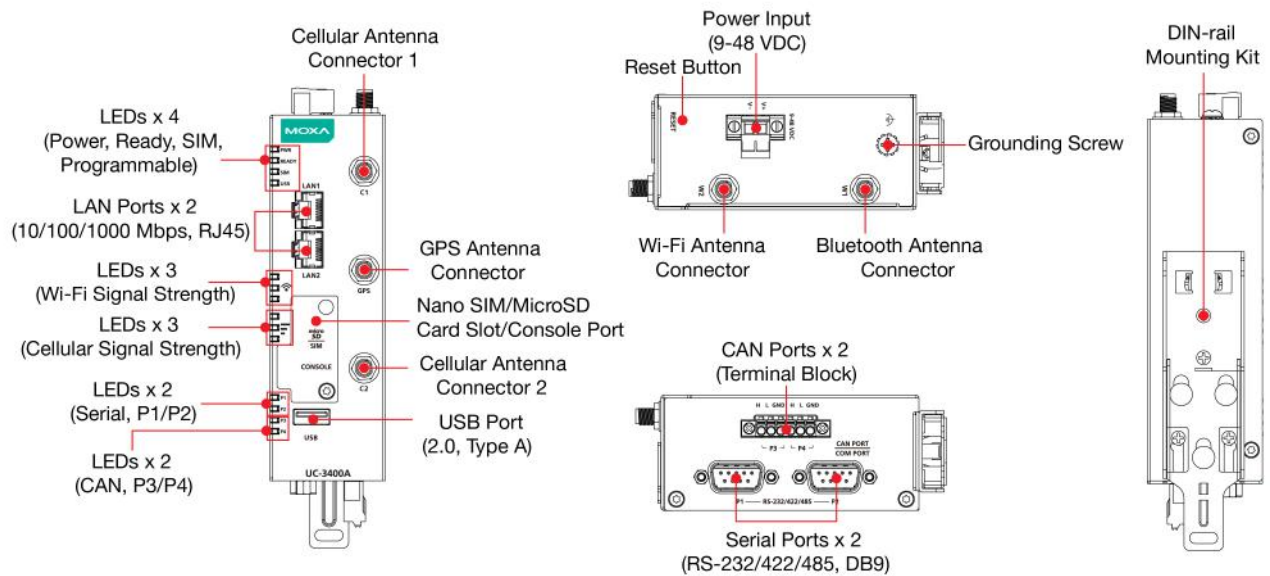
UC-3424A-T-LTE



UC-3430A-T-LTE-WiFi



UC-3434A-T-LTE-WiFi



Specifications

Computer

CPU	Arm Cortex-A53 quad-core 1.4 GHz
DRAM	4 GB DDR4
Supported OS	Moxa Industrial Linux 3 (Debian 11, kernel 5.10), 2031 EOL See www.moxa.com/MIL
Storage Pre-installed	16 GB eMMC
Expansion Slots	microSD socket x 1

Computer Interface

Ethernet Ports	Auto-sensing 10/100/1000 Mbps ports (RJ45 connector) x 2
Serial Ports	RS-232/422/485 ports x 2 (software-selectable, DB9 male connector)
CAN Ports	UC-3424A-T-LTE, UC-3434A-T-LTE-WiFi: CAN 2.0 A/B x 2 (DB9 male)
USB 2.0	USB 2.0 hosts x 1, type-A connectors
Cellular Antenna Connector	SMA x 2
SIM Format	Nano
Number of SIMs	2
GPS Antenna Connector	SMA x 1
Wi-Fi Antenna Connector	RP-SMA x 2
Console Port	RS-232 (TxD, RxD, GND), 3-pin header output (115200, n, 8, 1)
Bluetooth	UC-3430A-T-LTE-WiFi, UC-3434A-T-LTE-WiFi: v5.3
TPM	TPM v2.0

Ethernet Interface

No. of Ports	2
Magnetic Isolation Protection	1.5 kV (built-in)

Serial Interface

No. of Ports	2
Baudrate	50 bps to 921.60 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

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

No. of Ports	UC-3424A-T-LTE, UC-3434A-T-LTE-WiFi: 2
Baudrate	10 to 1000 kbps
Industrial Protocols	CAN 2.0A CAN 2.0B
Connector	6-pin terminal block

Isolation	2 kV (built-in)
Signals	CAN_H, CAN_L, CAN_GND, CAN_SHLD, CAN_V+, GND
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 7 (2600 MHz) / Band 8 (700 MHz) / Band 9 (1800 MHz) / Band 12 (700 MHz) / Band 13 (700 MHz) / Band 14 (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) 3G bands: Band 1 (2100 MHz) / Band 2 (1900 MHz) / Band 4 (1700 MHz) / Band 5 (850 MHz) / Band 6 (800 MHz) / Band 8 (700 MHz) / Band 19 (850 MHz) 2G bands: Band 2 (1900 MHz) / Band 3 (1800 MHz) / Band 5 (850 MHz) / Band 8 (700 MHz)
GPS Interface	
Receiver Types	GPS/GLONASS/BeiDou/Galileo/QZSS
Accuracy	Position: < 2.0 m @CEP50
Time to First Fix (TTFF)	Hot start: 1.1 s Warm start: 22.1 s Cold start: 29.9 s
Sensitivity	Tracking: -160 dBm Acquisition: -147 dBm Cold starts: -145 dBm
Update Rate	Minimum 1 Hz
WLAN Interface	
WLAN Standards	802.11a/b/g/n/ac/ax
Frequency Band	2.4 GHz / 5 GHz
Security Functions	
Hardware-based Security	TPM 2.0 Hardware Root of Trust Secure Boot
Intrusion Detection	Host-based Intrusion Detection
Security Tools	Security Diagnostic Tool Security Event Auditing Secure Update
Disk Protection	LUKS Disk Encryption
Recovery	One-step recovery to the last known secure state Dual-system design with automatic fallback
Reliability	Network Keep Alive Network Failover and Failback
LED Indicators	
System	Power x 1 READY (device bootup) x 1 SIM card indicator x 1
User Programmable	1
LAN	P1, P2: TX, RX per port (10/100/1000 Mbps)

CAN	UC-3424A-T-LTE/UC-3434A-T-LTE-WiFi: P3, P4: 1 per port for 2 CAN ports
Wireless Signal Strength	UC-3420A-T-LTE, UC-3424A-T-LTE: Cellular x 3 UC-3430A-T-LTE-WiFi, UC-3434-T-LTE-WiFi: Cellular x 3, Wi-Fi x 3
Power Parameters	
Input Current	1.09 A @ 9 VDC, 0.21 A @ 48 VDC
Input Voltage	9 to 48 VDC
Power Consumption	10.8 W (max.)
Reliability	
Automatic Reboot Trigger	External RTC (real-time clock)
Alert Tools	External WDT (watchdog timer)
Physical Characteristics	
Housing	Metal
IP Rating	IP30
Dimensions	130 x 92 x 41 mm (5.12 x 3.62 x 1.61 in)
Weight	Product only: 550 g (1.22 lb)
Installation	DIN-rail mounting Wall mounting (with optional kit)
Environmental Limits	
Operating Temperature	-40 to 70°C (-40 to 158°F)
Storage Temperature (package included)	-40 to 85°C (-40 to 185°F)
Ambient Relative Humidity	5 to 95% (non-condensing)
Standards and Certifications	
EMC	EN 55032/35 EN 61000-6-2/-6-4 UKCA RCM
EMI	FCC Part 15B Class A ICES-003 Class A EN 55032 Class A EN 61000-6-4 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: 1 kV; Signal: 1 kV IEC 61000-4-5 Surge: Power: 1 kV, Signal: 1 kV IEC 61000-4-6 CS: 10 V IEC 61000-4-8 PFMF: 30 A/m
Radio Frequency	All models: CE (RED) FCC ISED UKCA RCM NCC UC-342x models: TELEC

Safety	EN 62368-1 UL 62368-1
Vibration	IEC 60068-2-64 2 grms @ 5 to 500 Hz, random wave, 1 hr per axis (without USB devices attached)
Shock	IEC 60068-2-27
Carrier Approvals	AT&T Verizon (approval expected in Q1 2025) PTCRB
International Approval	CE (RED) FCC ISED UKCA RCM NCC UC-342x models: TELEC
Hazardous Locations	Expected completion in Q1, 2025 Class I Division 2 ATEX
Green Product	RoHS, CRoHS, WEEE

MTBF

Time	1,461,405 hrs
Standards	Telcordia (Bellcore) Standard TR/SR

Warranty

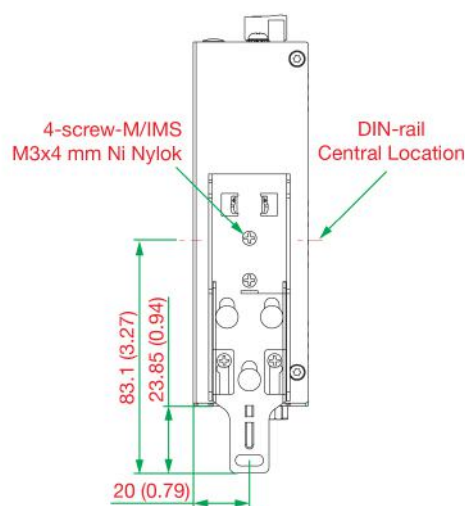
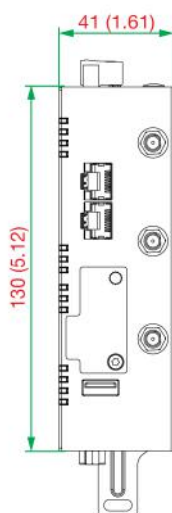
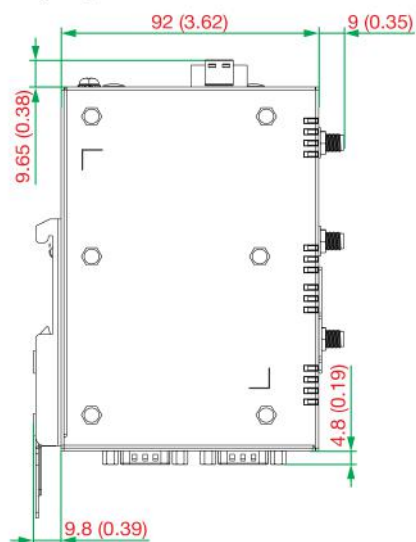
Warranty Period	5 years
Details	See www.moxa.com/warranty

Package Contents

Device	1 x UC-3400A Series computer
Documentation	1 x quick installation guide 1 x warranty card

Dimensions

Unit: mm (inch)



Ordering Information

Model Name	OS	CPU	CAN	LTE	Wi-Fi
UC-3420A-T-LTE	Default: MIL3 Standard Order MIL3 Secure through UC-3400A (CTO)	Arm Cortex-A53 quad-core 1.4 GHz	–	Cat. 4	–
UC-3424A-T-LTE	Default: MIL3 Standard Order MIL3 Secure through UC-3400A (CTO)	Arm Cortex-A53 quad-core 1.4 GHz	2	Cat. 4	–
UC-3430A-T-LTE-WiFi	Default: MIL3 Standard Order MIL3 Secure through UC-3400A (CTO)	Arm Cortex-A53 quad-core 1.4 GHz	–	Cat. 4	✓
UC-3434A-T-LTE-WiFi	Default: MIL3 Standard Order MIL3 Secure through UC-3400A (CTO)	Arm Cortex-A53 quad-core 1.4 GHz	2	Cat. 4	✓

Accessories (sold separately)

Power Adapters

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-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-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

DK-107-01	DIN-rail mounting kit with 1 plate (107 x 29 mm) and 5 M3 x 4 mm screws
-----------	---

Wall-Mounting Kits

WK-71-01	Wall-mounting kit with 2 plates (each 71 x 44.8 x 5.7 mm) and 5 M3 x 5 mm screws
----------	--

Antennas

ANT-LTEUS-ASM-01	GSM/GPRS/EDGE/UMTS/HSPA/LTE, 1 dBi, omnidirectional rubber-duck antenna
ANT-LTEUS-OSM-02	698 to 960/1710 to 2700 MHz, 1/4 λ omnidirectional 1.5 dBi antenna with SMA (male) connector
ANT-WDB-ARM-02	2 dBi at 2.4 GHz or 2 dBi at 5 GHz, RP-SMA (male) omnidirectional rubber-duck antenna
ANT-WDB-ASM-03 BK	2 dBi at 2.4 GHz or 2 dBi at 5 GHz, RP-SMA (male) omnidirectional rubber-duck antenna
ANT-GPS-CSM-04-3m BK	20 dBi at 1575 to 1605 MHz, SMA (male), right-hand circular polarization (RHCP), active GPS antenna, 3-meter cable

© Moxa Inc. All rights reserved. Updated Feb 26, 2025.

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.