

V2403 Series

Intel® 3rd Gen Core™ CPU industrial computer



Features and Benefits

- Intel® Core™ i Series processor with three performance options
- -40 to 70°C (system and LTE) operating temperature
- Dual CFast sockets for storing OS and OS backup
- Triple mini-PCIe sockets for storage and wireless modules that support mSATA, Wi-Fi, 3G, LTE, GPS, and Bluetooth
- Variety of interfaces: 4 serial ports, 2 Ethernet LAN ports, 4 DIs, 4 DOs, USB, HDMI, wireless
- EN 61000-6-2 and EN 61000-6-4 certification¹ and meets the EMC standard for heavy industry
- Up to 5 Grms anti-vibration and 100 g/11 ms anti-shock protection
- Ready-to-run Debian 8, Windows Embedded Standard 7, and Windows 10 Embedded IoT Enterprise 2016 LTSB platforms
- Moxa Proactive Monitoring utility for system hardware health monitoring
- Moxa Smart Recovery utility to recover system from boot failure (W7E only)

Certifications



Introduction

The V2403 Series fanless x86 embedded computer is based on the Intel® 3rd gen Core-i™ Series processor, features the most reliable I/O design to maximize connectivity, and supports dual wireless modules, making it suitable for a diverse range of communication applications. The computer's thermal design ensures reliable system operation in temperatures ranging from -40 to 70°C (with a special purpose Moxa wireless module installed). The V2403 Series supports "Moxa Proactive Monitoring" for device I/O status monitoring and alerts, system temperature monitoring and alerts, and system power management. Monitoring system status closely makes it easier to recover from errors and provides the most reliable platform for your applications.

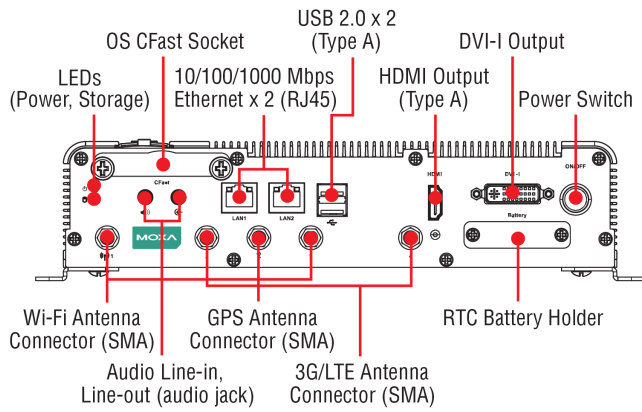
Applications

- 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

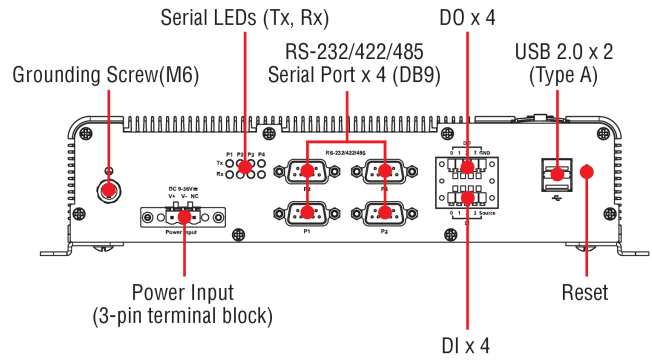
1. Passed with AC/DC adapter.

Appearance

Front View



Rear View



Specifications

Computer

| | |
|-----------------------------|--|
| CPU | V2403-C2 Series: Intel® Celeron® Processor 1047UE (2 M cache, 1.40 GHz) V2403-C7 Series: Intel® Core™ i7-3517UE Processor (4 M cache, up to 2.80 GHz) |
| System Chipset | Mobile Intel® HM65 Express Chipset |
| Graphics Controller | Intel® HD Graphics |
| System Memory Pre-installed | Default 4 GB DDR3 |
| System Memory Slot | SODIMM DDR3/DDR3L slot x 1 |
| Supported OS | Linux Debian 8 (Linux kernel v4.1) Windows Embedded Standard 7 (WS7E) 32-bit Windows Embedded Standard 7 (WS7E) 64-bit |
| Storage Slot | 2.5-inch HDD/SSD slots x 1 CFAST slot x 2 mSATA slots 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 4, software selectable (DB9 male) |
| USB 2.0 | USB 2.0 hosts x 4, type-A connectors |
| Audio Input/Output | Line in x 1, Line out x 1, 3.5 mm phone jack |
| Digital Input | DIs x 4 |
| Digital Output | DOs x 4 |
| Expansion Slots | mPCIe slot x 2 |
| Video Output | DVI-I x 1, 29-pin DVI-I connectors (female) HDMI x 1, HDMI connector (type A) |
| Wi-Fi Antenna Connector | RP-SMA x 2 |
| Cellular Antenna Connector | SMA x 2 |
| Number of SIMs | 2 |
| SIM Format | Mini |
| GPS Antenna Connector | SMA x 1 |

Digital Inputs

| | |
|-------------------------|---|
| Isolation | 3k VDC |
| Connector | Screw-fastened Euroblock terminal |
| Dry Contact | On: short to GND Off: open |
| I/O Mode | DI |
| Sensor Type | Dry contact Wet contact (NPN or PNP) |
| Wet Contact (DI to COM) | On: 10 to 30 VDC Off: 0 to 3 VDC |

Digital Outputs

| | |
|----------------|-----------------------------------|
| Connector | Screw-fastened Euroblock terminal |
| Current Rating | 200 mA per channel |
| I/O Type | Sink |
| Voltage | 24 to 40 VDC |

LED Indicators

| | |
|--------|-------------------------------|
| System | Power x 1 Storage x 1 |
| LAN | 2 per port (10/100/1000 Mbps) |
| Serial | 2 per port (Tx, Rx) |

Serial Interface

| | |
|--------------|--|
| Baudrate | 50 bps to 921.6 kbps |
| Flow Control | RTS/CTS, XON/XOFF, ADDC® (automatic data direction control) for RS-485, RTS Toggle (RS-232 only) |
| Parity | None, Even, Odd, Space, Mark |
| Data Bits | 5, 6, 7, 8 |
| 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 |

Power Parameters

| | |
|--------------------------|--|
| Input Voltage | 9 to 36 VDC |
| Power Connector | Terminal block (for DC models) |
| Power Consumption (Max.) | 3.51 A @ 9 VDC 1.39 A @ 24 VDC 0.93 A @ 36 VDC |
| Power Consumption | 34 W (max.) |

Physical Characteristics

| | |
|---------------------------|--|
| Housing | Aluminum |
| IP Rating | IP30 |
| Dimensions (with ears) | 275 x 63 x 154 mm (10.83 x 2.47 x 6.06 in) |
| Dimensions (without ears) | 250 x 57 x 154 mm (9.84 x 2.23 x 6.06 in) |
| Weight | 2,168 g (4.82 lb) |
| Installation | DIN-rail mounting (optional), Wall mounting (standard) |

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 55032/24, EN 61000-6-2/-6-4 |
| 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: 10 V/m IEC 61000-4-4 EFT: Power: 2 kV; Signal: 1 kV IEC 61000-4-5 Surge: Power: 2 kV; Signal: 1 kV IEC 61000-4-6 CS: 1 V IEC 61000-4-8 PFMF |
| Safety | EN 60950-1, UL 508, UL 60950-1 |
| Shock | IEC 60068-2-27 |
| Vibration | IEC 60068-2-64 |

Declaration

| | |
|---------------|-------------------|
| Green Product | RoHS, CRoHS, WEEE |
|---------------|-------------------|

MTBF

| | |
|-----------|--------------------------|
| Time | 329,398 hrs |
| Standards | Telcordia (Bellcore), GB |

Warranty

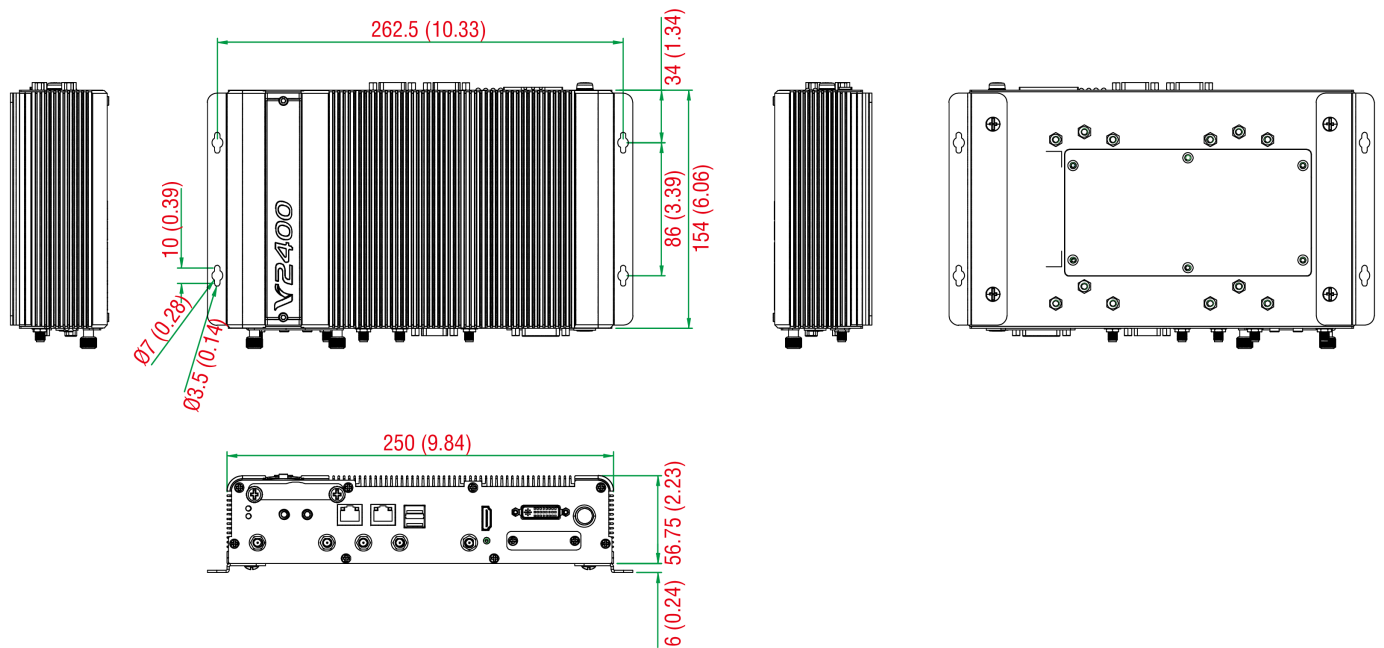
| | |
|-----------------|--|
| Warranty Period | 3 years |
| Details | See www.moxa.com/warranty |

Package Contents

| | |
|------------------|---|
| Device | 1 x V2403 Series computer |
| Cable | 1 x terminal block to power jack converter |
| Installation Kit | 1 x wall-mounting kit |
| Documentation | 1 x document and software CD 1 x quick installation guide 1 x warranty card |

Dimensions

Unit: mm (inch)



Ordering Information

| Model Name | CPU | Memory (Default) | OS CFast (CTO) | Backup CFast (CTO) | SSD/HDD Tray (CTO) | USIM Slot | Antenna Connectors | Operating Temp. |
|-----------------|----------------|------------------|----------------|--------------------|--------------------|-----------|--------------------|-----------------|
| V2403-C2-T | Celeron 1047UE | 4 GB | 1 (Optional) | 1 (Optional) | 1 (Optional) | - | - | -40 to 70°C |
| V2403-C2-W-T | Celeron 1047UE | 4 GB | 1 (Optional) | 1 (Optional) | 1 (Optional) | - | - | -40 to 70°C |
| V2403-C3-T | i3-3217UE | 4 GB | 1 (Optional) | 1 (Optional) | 1 (Optional) | - | - | -40 to 70°C |
| V2403-C3-W-T | i3-3217UE | 4 GB | 1 (Optional) | 1 (Optional) | 1 (Optional) | 2 | 5 | -40 to 70°C |
| V2403-C7-T | i7-3517UE | 4 GB | 1 (Optional) | 1 (Optional) | 1 (Optional) | 2 | 5 | -40 to 70°C |
| V2403-C7-W-T | i7-3517UE | 4 GB | 1 (Optional) | 1 (Optional) | 1 (Optional) | 2 | 5 | -40 to 70°C |
| V2403-C2-T-LX | Celeron 1047UE | 4 GB | 8 GB | 1 (Optional) | 1 (Optional) | - | - | -40 to 70°C |
| V2403-C2-T-W7E | Celeron 1047UE | 4 GB | 8 GB | 1 (Optional) | 1 (Optional) | - | - | -40 to 70°C |
| V2403-C2-T-W7E1 | Celeron 1047UE | 8 GB | 32 GB | 1 (Optional) | 64 GB MLC | - | - | -40 to 70°C |

Accessories (sold separately)

Battery Kits

| | |
|-----------------|---|
| RTC Battery Kit | Lithium battery with built-in connector |
|-----------------|---|

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 |

DIN-Rail Mounting Kits

| | |
|---------------|---------------------------------|
| DK-DC50131-01 | DIN-rail mounting kit, 6 screws |
|---------------|---------------------------------|

Wall-Mounting Kits

| | |
|-------------------------------|---|
| V2400 Isolated Wall Mount Kit | Wall-mounting kit with isolation protection, 2 wall-mounting brackets, 4 screws |
|-------------------------------|---|

Storage Kits

| | |
|-------------|---|
| FK-75125-02 | Storage bracket, 4 large silver screws, 4 soft washers, 4 small silver bronze screws, 1 SATA power cable, 4 golden spacers (only for the V2406 and V2426) |
|-------------|---|

Antennas

| | |
|----------------------|--|
| ANT-GPS-OSM-05-3M BK | Active GPS antenna, 26 dBi, 1572 MHz, L1 band antenna for GPS |
| ANT-LTEUS-ASM-01 | GSM/GPRS/EDGE/UMTS/HSPA/LTE, omni-directional rubber duck antenna, 1 dBi |
| ANT-WDB-ARM-02 | 2.4/5 GHz, omni-directional rubber duck antenna, 2 dBi, RP-SMA (male) |
| ANT-WCDMA-ASM-1.5 | GSM/GPRS/EDGE/UMTS/HSPA, omni-directional rubber duck antenna, 1.5 dBi |
| ANT-LTE-ASM-02 | GPRS/EDGE/UMTS/HSPA/LTE, omni-directional rubber duck antenna, 2 dBi |

Wi-Fi Wireless Modules

| | |
|-----------------------|--|
| V2403 Wi-Fi mini Card | SparkLAN WPEA-252NI Wi-Fi mini card , 4 black screws |
|-----------------------|--|

© Moxa Inc. All rights reserved. Updated Jan 22, 2020.

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.