

Встраиваемые промышленные компьютеры автоматизации серии UNO-4000

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UNO-4671A

Intel® Atom™ D510/D525 Power & Energy Automation Computers with 6 x LAN, 10 x COM, and 1 x PCI-104

NEW



Features

- IEC 61850-3 and IEEE 1613 compliant for Power & Energy automation applications
- China Electricity Certificate IV level
- Onboard Intel Atom D510 1.66GHz/D525 1.8 GHz processor
- Supports wide range and dual power input
- 2 x RS-232 isolated ports, 4 x RS-422/485 isolated ports and 4 x RS-485 isolated ports
- 6 x 10/100Base-T RJ-45 connector/2 x 10/100/1000Base-T and 4 x 10/100 Base-T RJ-45 connector
- Supports 1 x internal CF card and 1 x 2.5" SATA HDD
- Fanless design
- WES 2009, Windows XP, Windows CE 6.0, WES7 and Linux ready solution

Introduction

The UNO-4671A is compliant with Electricity Certificate level IV (especially for China) and IEC 61850-3 certification, which defines the international standards of network and system communications in power substations. Featuring a fanless design with low power consumption and high performance Intel Atom D510/D525 processor, the UNO-4671A comes with 10 isolated serial ports, 6 x LAN, 4 x USB (Internal) and 1 x PCI-104 extension. With rich OS and driver support, such as WES 2009, Windows XP, Windows CE 6.0, WES7 and Linux, users can integrate applications easily with a platform that can provide versatile functions to fulfill diverse requirements.

Specifications

General

- **Certification** CE, FCC class A, CCC, Electricity IV level for China (Compatible IEC 61850-3, IEEE 1613)
- **Dimensions (W x D x H)** 2U (440 x 220 x 88 mm/17.3" x 8.6" x 3.4") fits into standard 19 inch rack
- **Enclosure** SECC & Aluminum
- **Mounting** 2U Rackmount
- **Power Consumption** 30 W @ 24 V (Typical)
- **Power Requirements** Supports Redundant power input
Power 1: 100 ~ 240 V_{AC} or 100 ~ 240 V_{DC}
Power 2: 100 ~ 240 V_{AC} or 100 ~ 240 V_{DC}
- **Weight** < 5.5 kg
- **System Design** Fanless design
- **OS Support** WES 2009, Windows XP, Windows CE 6.0, WES7 and Linux
- **Remote Management** Built-in Advantech DiagAnywhere agent on Windows CE/XPe/7

System Hardware

- **CPU** Intel Atom D510 1.66 GHz/D525 1.8 GHz
- **Memory** 2GB DDR2/4GB DDR3 SDRAM
- **Indicators** LEDs for Power1&2, IDE, LAN (Active, Link) and Serial (Tx, Rx)
- **Storage** 1 x Internal type/II CompactFlash® slot.
1 x Built-in 2.5" SATA HDD bracket
- **Display** VGA, 1920 x 1080
- **Reset Button** Yes
- **WatchDog Timer** Programmable 256 levels time interval, from 1 to 255 seconds for each tier

I/O Interface

- **Serial Ports** 10 ports, 2 x RS-232, 4 x RS-422/485, 4 x RS-485 (Automatic RS-485 data flow control)
- **Communication Speed** RS-232: 50 ~ 115.2 kps,
RS-422/485: 50 ~ 921600 bps
- **LAN** 6 x 10/100 Base-T RJ-45 ports (For UNO-4671A-A33E)
2x 10/100/1000 Base-T RJ-45 ports and
4 x 10/100 Base-T RJ-45 ports (For UNO-4671A-A44BE)
- **USB Ports** 4 x USB (include 1 x internal USB), UHCI, Rev. 2.0 compliant
- **Expansion** 1 x PCI-104

Environment

- **Storage Humidity** 95% @ 40°C (non-condensing)
- **Operating Temperature** IEC 60068-2-2 with 100% CPU/ I/O loading, 48 hrs -20 ~ 60°C (-4 ~ 140°F)
- **Operating Humidity** 20 ~ 95% (non-condensing)
- **Shock Protection** IEC 68 2-27 CompactFlash®: 30 G half sine, 11 ms
HDD: 20 G half sine, 11 ms
- **Vibration Protection** IEC 68 2-64 (Random 1 Oct./min, 1hr/axis.)
CompactFlash: 2 Grms @ 5 ~ 500 Hz

Ordering Information

- **UNO-4671A-A33E** Intel Atom D510 1.66 GHz, 2 GB RAM Power & Energy Automation Computer
- **UNO-4671A-A44BE** Intel Atom D525 1.8 GHz, 4GB RAM Power & Energy Automation Computer
- **1757004251-01(*)** SPS AC 100-240V 120W W/PFC EOFP-120MA (For UNO-4671A Dual Power, by CTOS configuration center)

UNO-4673A UNO-4683

Intel® Atom™ D510/ Core™ i7 Power & Energy
Automation Computers with 6 x LAN, 2 x COM
and 3 x Expansion Slots

NEW



Introduction

UNO-4673A and UNO-4683 are compliant with the hardware requirements of IEC 61850-3, which defines the international standards of network and system communications in power substations. Featuring fanless designs with built-in isolated PSU and 3 expansion slots for I/O plug-in cards, the UNO-4673A and UNO-4683 are suitable for harsh environments. The rear I/O connection and LEDs on front panel for all ports and modes highly simplify monitoring for operation and maintenance.

Specifications

General

- **Certification** IEC 61850-3, IEEE 1613, CE, FCC Class A, UL, CCC, Electricity IV level for China
- **Dimensions (W x D x H)** 2U (440 x 220 x 89 mm/ 17.3" x 8.6" x 3.4") fits into standard 19 inch rack
- **Enclosure** SECC + Aluminum
- **Mounting** 2U Rackmount
- **Power Consumption** 45 W (Typical)
- **Power Requirements** AC: 81~275 V_{AC} (47 ~ 63 Hz), DC: 90~300 V_{DC}, With isolation protection, AT
- **Weight** ~6.0 kg
- **OS Support** WES, Windows XP Embedded, Windows /XP, Windows CE 6.0, Linux, QNX, Window server 2008 R2 (64bits)
- **System Design** Fanless Design
- **Remote Management** Built-in Advantech DiagAnywhere agent on Windows CE/XPe

System Hardware

- **CPU** Intel Atom D510 1.66 GHz/Core i7 2.0 GHz
- **Memory** 2 GB DDR2 SDRAM/4G DDR3 SDRAM built-in
- **Indicators** LEDs for Power, IDE, Alarm for battery backup SRAM, Diagnosis (programmable), LAN (Active, Status) and Serial (Tx, Rx)
- **Keyboard/Mouse** 2 x PS/2
- **Storage** CF 1 x internal type I/II CompactFlash® slot
HDD Built-in one 2.5" SATA HDD bracket
- ***RAID capable with 2nd HDD kit**
- **Display** DB15 VGA connector, 2048 x 1536 @ 85 Hz (UNO-4673A)
1 x DVI-I (UNO-4683)
- **Watchdog Timer** Programmable 7-tier event handler, from 1 to 255 seconds for each tier
- **Battery Backup SRAM** 1 MB

Features

- China Electricity Certificate IV level
- IEC 61850-3 and IEEE 1613 certified for substation automation applications
- Onboard Intel Atom 1.66 GHz / Core i7 2.0 GHz processor
- Support Intel Virtualization Technology for Direct IO (VT-D)
- 2 x RS-232/422/485 isolated serial ports with automatic flow control and 128KB FIFO
- 2 x 10/100/1000Base-T (supports teaming function) and 4 x 10/100Base-T
- Supports 1 x internal CF card and 1 x 2.5" SATA HDD
- 6 x USB 2.0 (1 x internal) and 3 x Domain I/O expansions
- Rear wiring, rich system & I/O LED status indicators
- Windows® CE 6.0, Windows XP Embedded SP2, and Linux ready solution
- Fanless design with no internal cabling
- Isolation power design with wide AC / DC input range
- Isolation between chassis and power ground
- One internal USB for dongle and flash drive

Relay

- **Relay output** Form C
- **Contact** 5 A @ 250 V_{AC} 5 A @ 30 V_{DC}

I/O Interface

- **Serial Ports** 2 x DB-9Automatic RS-485 data flow control/2000 V_{DC} EFT protection & 2000 V_{DC} isolation
- **Serial Port Speed** RS-232: 50 ~ 115.2 kbps
RS-422/485: 50 ~ 921.6 kbps (Max.)
- **LAN** 2 x 10/100/1000Base-T RJ-45 ports,teaming function supported
4 x 10/100Base-T RJ-45 ports
- **Audio** Line-out
- **USB Ports** 6 x USB, UHCI, Rev. 2.0 compliant2 x Front, 3 x Rear and 1 x Internal ports
- **Expansion** 3 x Domain I/O expansions (Only slot 1 supports PCIe resource)

Environment

- **Storage Humidity** 95% @ 40°C (non-condensing)
- **Operating Temperature** IEC 60068-2-2 with 100% CPU/ I/O loading, 48 hrs -20 ~ 70°C (optional for -40°C)
- **Operating Humidity** 20 ~ 95% (non-condensing)
- **Shock Protection** IEC 60068-2-27 CompactFlash®: 50 G half sine, 11 ms
HDD: 20 G half sine, 11 ms
- **Vibration Protection** IEC 60068-2-64 (Random 1 Oct./min, 1hr/axis.)
CompactFlash®: 2 Grms @ 5 ~ 500 Hz,
HDD: 1 Grms @ 5 ~ 500 Hz

Ordering Information

- **UNO-4673A-A33E** Intel Atom 1.66 GHz, 2 GB RAM Power & Energy Automation Computer
- **UNO-4683-D34E** Intel Core i7 2.0 GHz, 4 GB RAM Power & Energy Automation Computer
- **UNO-4673ADP-A33E** Intel Atom 1.66 GHz, 2 GB RAM,dual PSU Power & Energy Automation Computer
- **UNO-4683DP-D34E** Core i7 2.0 GHz, 4 GB RAM,dual PSU Power & Energy Automation Computer

UNO-4678

Intel® Celeron® M Fanless Box PC
with 3 x LAN, 8 x COM, PC/104

NEW



Features

- Onboard Celeron® 1 GHz processor and 512 MB or 1024 MB RAM
- Supports Lm sensor which can retrieve CPU and board temperature for monitoring purposes
- 8 x isolated RS-232/422/485 ports with automatic flow control
- 3 x 10/100Base-T RJ-45 ports
- Supports two USB and 1 x type I/II CF card
- Windows® CE 5.0 and Windows XP Embedded ready solution
- Windows 2000/XP driver ready and Linux driver support
- Windows XP Embedded (SP2) ready platform with write protection (EWF)
- Onboard system & I/O LED indicators
- Fanless design with no internal cabling

Introduction

UNO-4678 is high-performance Fanless Box PC, which supports a Celeron M 1 GHz CPU, and equipped with eight isolated serial communication ports. They inherit the glory from the UNO family and includes the typical characteristics as it is fanless, robust, and reliable. Furthermore, in order to meet the diverse applications in industrial automation and control, varied interfaces and 1U form factor are suitable for use, especially for rack mounting. Also, LEDs for all ports and modes on the front panel simplify the monitoring status for operation, administration and maintenance. UNO-4678 is convenient and user-friendly platforms to fulfill a wide range of requirements.

Specifications

General

- **Certifications** CE, FCC class A, UL, CCC
- **Dimensions (W x D x H)** 1U (440 x 220 x 44 mm/17.3" x 8.6" x 1.7")
- **Enclosure** SECC
- **Mounting** Rack mount
- **Power Consumption** 24 W (Typical)
- **Power Requirements** Min. 48 W (9 ~ 36 V_{DC}) (e.g. +24 V @ 2 A), AT
- **Weight** 3.6 kg
- **OS Support** Windows XP Embedded, Windows 2000/XP, Windows CE 5.0, Linux

System Hardware

- **CPU** Celeron M 1.0 GHz
- **Memory** 512 MB DDR SDRAM (UNO-4678-C11E) or 1024 MB DDR SDRAM (UNO-4678-C12E)
- **Indicators** LEDs for Power, Power Input 1 & 2, Power fault, IDE, LAN (Active, Status) and Serial (Tx, Rx)
- **Keyboard/Mouse** 1 x PS/2
- **Storage**
 - SSD 1 x internal type I/II CompactFlash® slot
 - HDD Built-in 2.5" SATA/IDE HDD bracket
- **Display** DB15 VGA connector 1600 x 1200 @ 85 Hz

I/O Interface

- **Serial Ports** 8 x RS-232/422/485 ports include:
 - 2 x DB-9 connectors with 9-wired RS-232
 - 6 x screw terminals with 5-wired RS-232Automatic RS-485 data flow control
2000 V_{DC} surge protection & 2000 V_{DC} isolation
- **Serial Port Speed** RS-232: 50 ~ 230.4 kbps
RS-422/485: 50 ~ 921.6 kbps (Max.)
- **LAN** 3 x 10/100Base-T RJ-45 ports
- **USB Ports** 2 x USB, USB EHCI, Rev. 2.0 compliant

Environment

- **Humidity** 95% @ 40° C (non-condensing)
- **Operating Temperature** -10 ~ 50° C (14 ~ 122° F)
- **Shock Protection** IEC 68 2-27
CompactFlash®: 50 G @ wall mount, half sine, 11 ms
HDD: 20 G @ wall mount, half sine, 11 ms
- **Vibration Protection** IEC 68 2-64 (Random 1 Oct./min, 1hr/axis.)
CompactFlash®: 2 Grms @ 5 ~ 500 Hz
HDD: 0.5 Grms @ 5 ~ 500 Hz

Ordering Information

- **UNO-4678-C11E** Celeron M 1 GHz, 512 MB RAM Fanless Box PC
- **UNO-4678-C12E** Celeron M 1 GHz, 1024 MB RAM Fanless Box PC

UNO-4673A UNO-4683

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Introduction

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- Dimensions (W x D x H)** 2U (440 x 220 x 89 mm/ 17.3" x 8.6" x 3.4") fits into standard 19 inch rack
- Enclosure** SECC + Aluminum
- Mounting** 2U Rackmount
- Power Consumption** 45 W (Typical)
- Power Requirements** AC: 81~275 V_{AC} (47 ~ 63 Hz), DC: 90~300 V_{DC}, With isolation protection, AT
- Weight** ~6.0 kg
- OS Support** WES, Windows XP Embedded, Windows /XP, Windows CE 6.0, Linux, QNX, Window server 2008 R2 (64bits)
- System Design** Fanless Design
- Remote Management** Built-in Advantech DiagAnywhere agent on Windows CE/XPe

System Hardware

- CPU** Intel Atom D510 1.66 GHz/Core i7 2.0 GHz
- Memory** 2 GB DDR2 SDRAM/4G DDR3 SDRAM built-in
- Indicators** LEDs for Power, IDE, Alarm for battery backup SRAM, Diagnosis (programmable), LAN (Active, Status) and Serial (Tx, Rx)
- Keyboard/Mouse** 2 x PS/2
- Storage** CF 1 x internal type I/II CompactFlash® slot
HDD Built-in one 2.5" SATA HDD bracket
- *RAID capable with 2nd HDD kit**
- Display** DB15 VGA connector, 2048 x 1536 @ 85 Hz (UNO-4673A)
1 x DVI-I (UNO-4683)
- Watchdog Timer** Programmable 7-tier event handler, from 1 to 255 seconds for each tier
- Battery Backup SRAM** 1 MB

Features

- China Electricity Certificate IV level
- IEC 61850-3 and IEEE 1613 certified for substation automation applications
- Onboard Intel Atom 1.66 GHz / Core i7 2.0 GHz processor
- Support Intel Virtualization Technology for Direct IO (VT-D)
- 2 x RS-232/422/485 isolated serial ports with automatic flow control and 128KB FIFO
- 2 x 10/100/1000Base-T (supports teaming function) and 4 x 10/100Base-T
- Supports 1 x internal CF card and 1 x 2.5" SATA HDD
- 6 x USB 2.0 (1 x internal) and 3 x Domain I/O expansions
- Rear wiring, rich system & I/O LED status indicators
- Windows® CE 6.0, Windows XP Embedded SP2, and Linux ready solution
- Fanless design with no internal cabling
- Isolation power design with wide AC / DC input range
- Isolation between chassis and power ground
- One internal USB for dongle and flash drive

Relay

- Relay output** Form C
- Contact** 5 A @ 250 V_{AC} 5 A @ 30 V_{DC}

I/O Interface

- Serial Ports** 2 x DB-9 Automatic RS-485 data flow control 2000 V_{DC} EFT protection & 2000 V_{DC} isolation
- Serial Port Speed** RS-232: 50 ~ 115.2 kbps
RS-422/485: 50 ~ 921.6 kbps (Max.)
- LAN** 2 x 10/100/1000Base-T RJ-45 ports, teaming function supported
4 x 10/100Base-T RJ-45 ports
- Audio** Line-out
- USB Ports** 6 x USB, UHCI, Rev. 2.0 compliant 2 x Front, 3 x Rear and 1 x Internal ports
- Expansion** 3 x Domain I/O expansions (Only slot 1 supports PCIe resource)

Environment

- Storage Humidity** 95% @ 40°C (non-condensing)
- Operating Temperature** IEC 60068-2-2 with 100% CPU/ I/O loading, 48 hrs -20 ~ 70°C (optional for -40°C)
- Operating Humidity** 20 ~ 95% (non-condensing)
- Shock Protection** IEC 60068-2-27 CompactFlash®: 50 G half sine, 11 ms
HDD: 20 G half sine, 11 ms
- Vibration Protection** IEC 60068-2-64 (Random 1 Oct./min, 1hr/axis.)
CompactFlash®: 2 Grms @ 5 ~ 500 Hz,
HDD: 1 Grms @ 5 ~ 500 Hz

Ordering Information

- UNO-4673A-A33E** Intel Atom 1.66 GHz, 2 GB RAM Power & Energy Automation Computer
- UNO-4683-D34E** Intel Core i7 2.0 GHz, 4 GB RAM Power & Energy Automation Computer
- UNO-4673ADP-A33E** Intel Atom 1.66 GHz, 2 GB RAM, dual PSU Power & Energy Automation Computer
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