

# UNO-4673A UNO-4683

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

NEW



## Features

- IEC 61850-3 and IEEE 1613 compliant for substation automation applications
- Onboard Intel Atom 1.66 GHz / Core i7 2.0 GHz processor
- 2 x RS-232/422/485 isolated serial ports with automatic flow control and 128KB FIFO
- 2 x 10/100/1000 Base-T (supports teaming function) and 4 x 10/100 Base-T
- Supports 1 x internal CF card and 1 x 2.5" SATA HDD
- 6 x USB 2.0 (1 x internal)
- 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

## 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, UNO-4673A and UNO-4683 are suitable for harsh environment applications. The rear I/O connection and LEDs on front panel for all ports and modes highly simplify monitoring for operation and maintenance.

## Specifications

### General

- **Certifications** IEC 61850-3, IEEE 1613, CE, FCC Class A, UL, CCC
- **Dimensions (W x D x H)** 2U (440 x 280 x 88) mm (17.3" x 11" x 3.4")  
fits into standard 19 inch rack
- **Enclosure** SECC
- **Mounting** 2U Rackmount
- **Power Consumption** 45W (Typical)
- **Power Requirements** AC : 100 ~ 240 V<sub>AC</sub> (47 ~ 63 Hz)  
DC : 106 ~ 250 V<sub>DC</sub>  
With isolation protection, AT
- **Weight** 6.0 kg
- **OS Support** WES, Windows® XP Embedded, Windows 2000/XP, Windows CE 6.0, Linux, QNX
- **System Design** Fanless with no internal cabling
- **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 DDR DRAM built-in
- **Indicators** LEDs for Power, IDE, Alarm for battery backup SRAM, Diagnosis (programmable), LAN (Active, Status) and Serial (Tx, Rx)
- **Storage** CF 1 x internal type I/II CompactFlash® slot  
HDD Build-in one 2.5" SATA HDD bracket
- **Display** DB15 VGA connector, 1600 x 1200 @ 85 Hz
- **Watchdog Timer** Programmable 7-tier event handler, from 1 to 255 seconds for each tier
- **Battery Backup SRAM** 1 MB

### I/O Interface

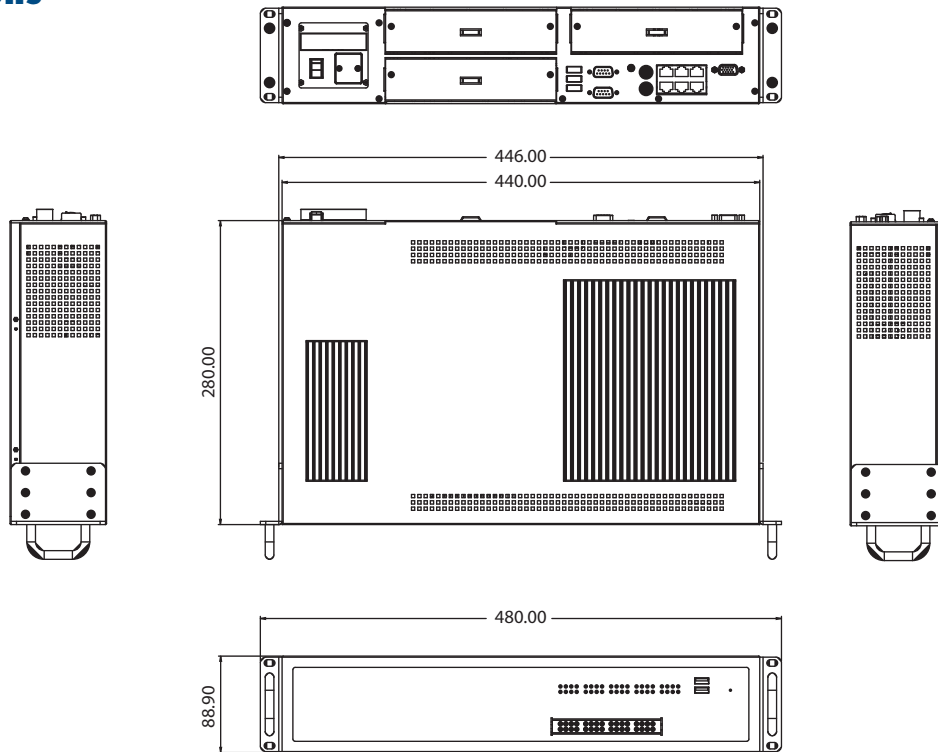
- **Serial Ports** 2 x DB-9  
Automatic RS-485 data flow control  
2000 V<sub>DC</sub> EFT protection & 2000 V<sub>DC</sub> isolation
- **Serial Port Speed** RS-232: 50 ~ 230.4 kbps  
RS-422/485: 50 ~ 921.6 kbps (Max.)
- **LAN** 2 x 10/100/1000 Base-T RJ-45 ports, teaming function supported  
4 x 10/100Base-T 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

### Environment

- **Humidity** 95% @ 40° C (non-condensing)
- **Operating Temperature** IEC 60068-2-2 with 100% CPU/I/O loading, 48 hrs  
-20 ~ 70° 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

**Dimensions**

Unit: mm



**Ordering Information**

- **UNO-4673A-A33E** Intel Atom 1.66 GHz, 2 GB RAM Automation Computer
- **UNO-4683-D33E** Intel Core i7 2.0 GHz, 2GB RAM Automation Computer

**Accessories**

- **UNOP-1000I-AE** Expansion card for standard PCI and PCI-mini card
- **UNOP-1000J-AE** Expansion card for standard PCI-104 and PCIe-mini card
- **UNOP-1514C-AE** 4-port Fiber Optic LAN card
- **UNOP-1618D-AE** 8-port RS-232/422/485 w/EFT protection
- **UNOP-1628D-AE** 8-port RS-232/422/485 w/Iso and EFT
- **UNOP-1624D-AE** 4-port RS-232/422/485 w/Iso and EFT, 1-port IRIG-B
- **PCLS-DIAGAW10** Advantech Remote Monitoring & Diagnosis Utility

**Front I/O**



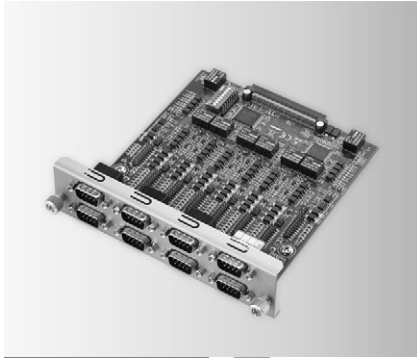
**Rear I/O**



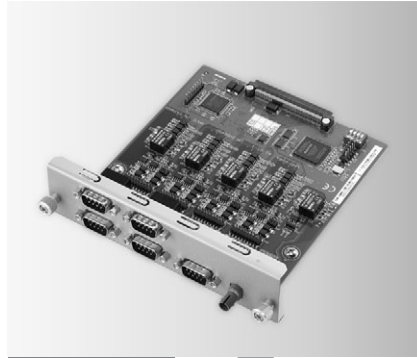
- 1 Operator Panels
- 2 Fanless Panel PCs
- 3 Panel Computers
- 4 Display Solutions
- 5 Ethernet Switches
- 6 Device Servers
- 7 Serial Comm. Cards
- 8 Video Surveillance
- 9 Pre-Configured Systems
- 10 IPC Chassis
- 11 SBCs and Backplanes
- 12 Industrial Motherboards
- 13 Embedded IPCs
- 14 Mobile Computers
- 15 IPC Peripherals
- 16 DAQ
- 17 Signal Conditioning
- 18 USB DAQ

# UNOP-1618D/1628D UNOP-1624D UNOP-1514C

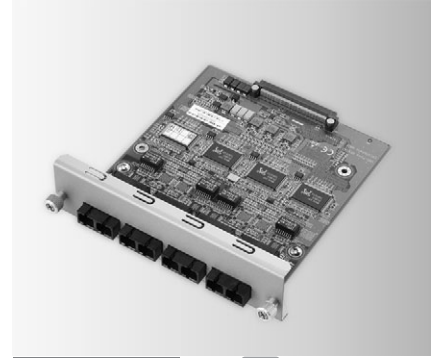
8-port RS-232/422/485 with and without port-to-port Isolation  
4-port Isolated RS-232/422/485 with IRIG B  
4-port Fiber Optic LAN Card



UNOP-1618D/1628D



UNOP-1624D



UNOP-1514C

## Specifications

### General

- **Connector** 120-pin connector for UNO-4673A/PCI
- **Dimensions** 5.3" x 6.0" (136 x 150 mm)
- **Power Consumption** 5V  $\pm 5\%$  @ 1.5A typical, 3.3V  $\pm 5\%$  @ 150mA typical
- **Certifications** CE/FCC

### Communication

- **IRQ** All ports use the same IRQ assigned by PCI Bus
- **COM Ports** 8 port RS-232/485/422
- **Data Bits** 5, 6, 7, 8
- **Stop Bits** 1, 1.5, 2
- **Parity** None, Even, Odd
- **Baud-rate (bps)** 50 ~ 921.6 k
- **Data Signals** TxD, RxD, RTS, CTS, RI, DSR, DTR, DCD, GND for RS-232  
Data+, Data-, GND for RS-485  
Tx+, Tx-, Rx+, Rx- for RS-422

### Protection

- **Isolation Protection** 2500 V<sub>DC</sub> (UNOP-1628D)
- **EFT Protection** 2500 V<sub>DC</sub>

### Environment

- **Operating Temp.** -20 ~ 70° C (-4 ~ 158° F)
- **Operating Humidity** 10 ~ 90% RH non-condensing (refer to IEC 60068-2-3)
- **Storage Humidity** 5 ~ 95% RH non-condensing (refer to IEC 60068-2-3)

## Ordering Information

- **UNOP-1618D-AE** 8-port RS-232/422/485 for UNO-4673A
- **UNOP-1628D-AE** 8-port Iso. RS-232/422/485 for UNO-4673A

## Specifications

### General

- **Connector** 120-pin connector for UNO-4673A/PCI
- **Dimensions** 5.3" X 6.0" (136 x 150 mm)
- **Power Consumption** 5V  $\pm 5\%$  @ 500mA typical, 3.3V  $\pm 5\%$  @ 180mA typical.
- **Certifications** CE/FCC

### Communication

- **IRQ** All ports use the same IRQ assigned by PCI Bus
- **COM Ports** 4 ports RS-232/422/485
- **Data Bits** 5, 6, 7, 8
- **Stop Bits** 1, 1.5, 2
- **Parity** None, Even, Odd
- **Baud rate (bps)** 50 ~ 921.6 k
- **Data Signals** TxD, RxD, RTS, CTS, RI, DSR, DTR, DCD, GND for RS-232Data+, Data-, GND for RS-485Tx+, Tx-, Rx+, Rx- for RS-422

### IRIG Time Code Input

- **IRIG Electrical connectors** male 9-pole D-Sub connector
- **Supported Formats** IRIG-B00X according to IRIG STANDARD 200-04, 200-98
- **Input signal** RS485 input signal insulated by optocoupler Optical signal @820nm
- **Interface** RS485 differential input (120 or 300ohms) of the IRIG-B unmodulated digital signal DB9 connector
- **Miniature Fiber Optic** Components with ST Port

### IRIG Time Code Decoding

- **Message syntax** QQQHMMSS (year, day, hour, minute & second)
- **Resolution of the time** 1s
- **Status info** 1 status LED for indication

### Protection

- **Isolation Protection** 2500 V<sub>DC</sub>
- **EFT Protection** 2500 V<sub>DC</sub>

### Environment

- **Operating Temp.** -20 ~ 70° C (-4 ~ 158° F)
- **Operating Humidity** 10 ~ 90% RH non-condensing (refer to IEC 60068-2-3)
- **Storage Humidity** 5 ~ 95% RH non-condensing (refer to IEC 60068-2-3)

## Ordering Information

- **UNOP-1624D-AE** 4-port Iso. RS-232/422/485 and IRIG B for UNO-4673A

## Specifications

### General

- **Connector** 120-pin connector for UNO-4673A/PCI
- **Dimensions** 5.3" X 6.0" (136 x 150 mm)
- **Power Consumption** 5V  $\pm 5\%$  @ 2500(at least) mA
- **Certifications** CE/FCC

### Fiber Optic LAN

- **Standard** IEEE 802.3, 802.3u, 802.3x LAN 100Base-FX
- **Transmission Distance** Up to 2 km
- **Wavelength** 1300nm
- **Transmission Speed** Up to 100 Mbps

### Interface

- **Connectors** 4 x SC type Multi-mode Fiber Optic connector
- **LED Indicators** Power, Link (100Base-FX)
- **Power Consumption** Max 9 W

### Environment

- **Operating Temp.** -20 ~ 70° C (-4 ~ 158° F)
- **Operating Humidity** 10 ~ 90% RH non-condensing (refer to IEC 60068-2-3)
- **Storage Humidity** 5 ~ 95% RH non-condensing (refer to IEC 60068-2-3)

## Ordering Information

- **UNOP-1514C-AE** 4-port Fiber Optic LAN card