Advantech’s Embedded Automation Computers

Construct Automation Solutions with Trusted Domain-Focused Platforms

- Machine Automation
- Factory Automation
- Process Automation
- Power & Energy
- Oil & Gas Applications
- Water Treatment
- Environmental Monitoring
- Building Automation
- Intelligent Transportation

www.advantech.com/eA
Advantech’s Embedded Automation Computers have been designed to fulfill the needs of mission-critical automation applications. Their embedded design, industrial features and advanced open computing technology with remote management capability deliver robustness, reliability and flexibility to satisfy customers who are looking for a rugged & compact automation platform with domain features and certifications for their target applications.

Designed to Meet Domain Needs, Engineered for Harsh Environments

Remote Management

Open & Robust

Environmental Monitoring

Renewable Energy

Oil & Gas

Water Treatment

Transportation
Domain Focused

- Building Automation
- Machine Automation
- Factory & Process Automation
- Power & Energy
Advantech’s Embedded Automation Computers Are Much More Than Just Fanless Box PCs
Advantech's Embedded Automation Computer
Product Lines

**UNO-1000 Series**
DIN-rail Automation Computers for Control Cabinets
DIN-rail Controller Platforms with Class I, Division 2 Certification
Advantech's UNO-1000 Series are compact and DIN-rail mounted fanless industrial automation computers. They feature a RISC-based processor with a wide operating temperature range (up to 75°C), and are suitable as communication controllers in protocol converter applications and in mission-critical environments.

**UNO-2000/2100 Series**
Compact Automation Computers
Scalable, Low Power Consuming Platforms to Deliver High-performance Computing and Communications
Advantech's UNO-2000/2100 series are fanless wallmounted industrial automation computers with dual sided rich I/Os. They feature a complete range of computing power for a wide array of applications. Different expansion capabilities such as PC/104+ and Mini PCIe slots also allow users to add third party I/O modules.

**UNO-3000 Series**
Wallmount Automation Computers with PCI/PCIe Expansion
Front Accessible, High-performance Platforms for Machine Automation Applications
Advantech's UNO-3000 series are fanless wallmounted front access industrial automation computers with PCI/PCIe expansion. They feature a wide range of computing power from Intel® Atom™ N270 to Intel® Core™ i7 2655LE processors. Their PCI/PCIe expansion capability allows users to add third party I/O modules for a variety of applications.

**UNO-3200 Series**
High-performance Automation Computers with PCI/PCIe Expansion
Powerful and Reliable Computing Engines for Critical and Demanding Applications
Advantech's UNO-3200 series are designed to provide computing power and high-speed I/O expansion for demanding applications such as machine controllers with vision & 3D, embedded servers etc. UNO-3200 series offer Intel® Core™2 Duo computing and DVI to handle vision processing and graphic display.

**UNO-4600 Series**
Substation Automation Computers
Rackmount IEC 61850-3/ IEEE 1613 Compliant Platforms with Substation Domain I/O Support
Advantech's UNO-4600 series are designed to work in the substation environment. The isolated I/O lines and isolated power circuitry enhance the anti-interference features. IRIG-B time-sync protocol and fiber optical LAN optional modules also provide the professional domain I/Os for substation applications.
Reliable Embedded Architecture

Advantech's fanless Embedded Automation Computers with no internal cabling are the best choice for automated applications in harsh working environments. Their embedded designs also include battery-backup SRAM to ensure data storage in case of power failure. Additionally they have been designed as energy saving products, which will save money while helping the planet. With complete Microsoft® Windows® Embedded Solutions, they are highly reliable for any mission-critical automation application.

Battery-backup SRAM
The onboard battery-backup SRAM saves runtime process data in the event of a power failure. The SRAM can also act as a data buffer that helps to reduce CF access time and extend CF lifetime.

Fanless Design
Advantech's Embedded Automation Computers are robust computers without rotating parts such as CPU fans, system fans, power supply fans or HDD. The fanless design significantly increases reliability, extends MTTR, and reduces maintenance efforts. As a result, you don’t need to worry about CPU coolers or HDD failures, even in dusty environments.

No Internal Cabling
Unlike generic Box PC designs which use cables for wiring between connectors and CPU boards, the connectors on the UNO series are soldered directly onto the PCB. Therefore, no internal cabling is inside the chassis, which makes Advantech's Embedded Automation Computers more reliable than traditional Box PCs in harsh environments.

Wide Temperature
Every Embedded Automation Computer is equipped with a tailor-made thermal design for its onboard CPU, RAM and ICs.
Robust and Reliable Design

With many years of field experience, we continue to improve our products to satisfy automation users’ desires. In response to users’ needs, Advantech’s Embedded Automation Computers provide LAN redundancy teaming function, to prevent information transmission problems when Ethernet is not working. Their tailor-made thermal designs also allow them to operate under a wide temperature range. With IP40 Certification and proprietary enhanced serial communication drivers, Advantech’s Embedded Automation Computers are designed to be robust, reliable and flexible in order to fulfill the needs of industrial automation users.

**COM Driver Enhancement**
Advantech’s Embedded Automation Computers use their own advanced serial communication drivers, which are more time-efficient than standard drivers. The drivers also support any-baud-rate functions for any serial device with special baud rate.

**LAN Redundancy (Teaming)**
Embedded Automation Computers support the teaming function. When Ethernet is not working, another port will immediately take over the transmission job.

**IP40 Ingress Protection**
Embedded Automation Computers are IP40 certified. With ingress protection, users can use the computers in dusty environments without reliability concerns.

**Patented Serial Communication**
Supports not only RS-232/422/485 selection and RS-485 auto-flow control, but also supports many other robust features, such as isolation, EFT protection, and over-voltage protection.

**Industrial Power Design**
9 ~ 36 Vdc Wide Power Input with reverse power polarity protection and ground isolation between chassis and system.
Value-Added Design for Automation Control

We not only make hardware more robust, but also provide value-added software to make it more intelligent.

Advantech DiagAnywhere Utility
Remote Management Software

- Monitoring & Control
- File Upload & Download
- Screen Snapshot
- Device Grouping
- Screen Recording

Fieldbus Master Support

Fieldbus is an industrial network system for real-time distributed control. To be an embedded automation computer, this added value will open a door to the critical control applications. We support the following protocols:

- CANopen
- Modbus-IDA
- EtherCAT
- EtherNet/IP
- PROFINET
- PROFIBUS

Software Solution Partners

SoftLogic Solution Powered by KW Software
Advantech’s Programmable Automation Controller solution leverages KW Software’s Multiprog and ProConOS as the single developing tool and SoftLogic control kernel.

Certified Platform by Wonderware
Wonderware software support allows automation computers to work as HMIs or control nodes. With the provided VESA mounting kit, these computers can be integrated with panel monitors, such as FPM series. With support for touchscreen controllers under WinCE, users can operate the systems through touch. Without the monitor, they can also be a control node for programmed control logic.

ACP ThinManager® Industrial Thin Client
ACP is experienced in the field of Thin Clients. Since 1999, ACP has been embedding its Thin Client technology into industrial computer products from Advantech, working to bring superior Thin Client devices. When combined with ACP’s Thin Client management tool, each ACP Enabled Advantech Thin Client has performance and features unmatched by products from any other company.
Domain Certification

Advantech’s Embedded Automation Computers are designed for domain certification in energy and hazardous locations. With certified designs and domain-specific I/O offering, it helps users to quickly construct robust solutions using Advantech’s reliable components.

**Class I, Division 2 Certified for Oil & Gas Applications**
The UNO-1100H series are certified to be used in Class I Division 2 Groups A, B, C and D hazardous locations.
Ambient Temperature Range: 0 ~ 60°C
Temperature Code:

<table>
<thead>
<tr>
<th>Model Name</th>
<th>Temperature Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNO-1140FH</td>
<td>T4A</td>
</tr>
<tr>
<td>UNO-1150GH/GHE</td>
<td>T3A</td>
</tr>
<tr>
<td>UNO-1172AH</td>
<td>T5</td>
</tr>
</tbody>
</table>

The UNO-1100H series have been classified using requirements contained in:

  - Class I and II, Division 2 Hazardous (Classified) Locations
  - Class III, Division 1 and 2 Hazardous (Classified) Locations

- Canada: CSA C22.2 No. 213-M1987
  - Class I, Division 2 Hazardous Locations

**IEC 61850-3 Standard for Power Substation Applications**
The UNO-4600 series are designed to be compliant with IEC 61850-3, which has been defined as an international hardware standard of communication network and system in power substations. In a modern power substation, this standard facilitates the management of a large number of devices and enables various devices to communicate with one another.

<table>
<thead>
<tr>
<th>Reference</th>
<th>Function</th>
<th>Required for IEC 61850-3</th>
</tr>
</thead>
<tbody>
<tr>
<td>IEC-61000-4-2</td>
<td>ESD</td>
<td>Contact 8KV; Air 15KV</td>
</tr>
<tr>
<td>IEC-61000-4-3</td>
<td>RS</td>
<td>35 V/m</td>
</tr>
<tr>
<td>IEC-61000-4-4</td>
<td>EFT</td>
<td>4KV</td>
</tr>
<tr>
<td>IEC-61000-4-5</td>
<td>Surge</td>
<td>5KV</td>
</tr>
</tbody>
</table>

**Multiple Expansion Capabilities**
Advantech’s Embedded Automation Computers support versatile expansion interfaces for domain I/Os.
UNO-1000 Series Introduction & Features

DIN-rail Automation Computers for Control Cabinets

- Fanless, and Moving Parts for Harsh Environments
- DIN-rail, Front I/O Accessible Design for Control Cabinets
- Battery-backup SRAM Saves Process Data in the Event of Power Failure
- Triple Ethernet Ports, PCI-104, PC/104+, and Mini PCIe Expansion
- A Wide Operating Temperature Range up to 75°C and Wide Power Input Range
- Designed to be Used in High Altitudes up to 13,200 Feet (4,000 Meters)

Class I, Division 2 Certification
Tested and designed for CID2 certification, providing safe and reliable operation in hazardous locations, such as liquefied natural gas, onshore drilling production, pipelines and refining applications.

System Diagnosis
Providing voltage, temperature and power status, LED indicators give warnings at field sites, and digital output enables remote notification and uploads information to diagnostic software (e.g. DiagAnywhere) for monitoring and controlling.

Designed for Control Cabinets
Compact size, DIN-rail mount and front-accessible I/Os for simplified installation and management in cabinets.

Battery-backup SRAM
The battery-backup SRAM saves runtime process data in the event of a power failure. The SRAM can act as a data buffer that helps to reduce CF access time and extend product lifetime.

Flexible Expansion
With Mini PCIe, PCI-104 and PC/104+, it enables users to easily integrate wireless connections and Fieldbus I/O modules in a single package.
SoftLogic Controller for Factory Automation

**UNO-1172A/1172AE**

SoftLogic Controllers Connecting a Variety of I/O Devices
- Provides local and remote diagnostic functions for better reliability
- Supports redundancy for fault tolerance via up to three Gigabit LAN ports
- Simplifies maintenance with compact size and front accessible design

**Class I, Division 2 Hazardous Location Monitoring System**

**UNO-1100H series**

HMI & Communication Gateways in Hazardous Locations
- Ideal for oil & gas fields, mining and other hazardous locations
- Connects SCADA RTU network, including wellhead/compressor/pumping unit/gas lift/injection control, together to realize centralized management in Distributed Control System (DCS)
- Achieves video security and local trouble-shooting control console by combining CID2-certified grade IP camera, PoE switch and LCD screen
## UNO-1000 Series Selection Guide

### Model Name

<table>
<thead>
<tr>
<th>Model Name</th>
<th>UNO-1110/L/T</th>
<th>UNO-1140/1140F</th>
<th>UNO-1150G/1150GE</th>
<th>UNO-1170A/1170AE</th>
<th>UNO-1172A/1172AE</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPU</td>
<td>TI AM3505 Cortex A8, 600MHz</td>
<td>EVA-VA150 486SX grade, 150 MHz</td>
<td>AMD LX800, 500 MHz</td>
<td>Intel Atom N270, 1.6 GHz</td>
<td>Intel Atom Dual Core D510, 1.66 GHz</td>
</tr>
<tr>
<td>Onboard RAM</td>
<td>256MB DDR2 SDRAM</td>
<td>64MB SDRAM</td>
<td>256MB DDR SDRAM</td>
<td>1GB DDR2 SDRAM</td>
<td>2GB DDR2 SDRAM</td>
</tr>
<tr>
<td>Battery-Backup SRAM</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>512 KB</td>
<td>1 MB</td>
</tr>
<tr>
<td>Display</td>
<td>VGA</td>
<td>VGA</td>
<td>VGA</td>
<td>VGA</td>
<td>VGA</td>
</tr>
<tr>
<td>Audio</td>
<td>Line out (UNO-1110T only)</td>
<td>-</td>
<td>Yes</td>
<td>Yes</td>
<td>5.1 channel HD Audio</td>
</tr>
<tr>
<td>Serial Ports</td>
<td>1 x RS-485</td>
<td>4 x RS-485</td>
<td>UNO-1140: 4 x RS-232/485</td>
<td>2 x RS-232 (zone pin header reserved)</td>
<td>2 x RS-232 (pin header)</td>
</tr>
<tr>
<td>Ethernet Ports</td>
<td>2 x 10/100Base-T</td>
<td>1 x 10/100Base-T</td>
<td>2 x 10/100Base-T</td>
<td>2 x 10/100Base-T</td>
<td>3 x 10/100/1000 Base-T</td>
</tr>
<tr>
<td>USB Ports</td>
<td>-</td>
<td>2</td>
<td>2</td>
<td>3 external, 1 internal</td>
<td>4</td>
</tr>
<tr>
<td>Onboard I/O</td>
<td>4-ch Di, 2-ch DO</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>8-ch DO</td>
</tr>
<tr>
<td>2.5 HDD</td>
<td>-</td>
<td>-</td>
<td>UNO-1150G: N/A</td>
<td>UNO-1150GE: 1 x SATA</td>
<td>1 x SATA</td>
</tr>
<tr>
<td>Expansion</td>
<td>1 x Mini PCIe</td>
<td>PC/104 (reserved)</td>
<td>UNO-1150G: N/A</td>
<td>UNO-1150GE: 1 x PO-104, 1 x Mini PCI</td>
<td>UNO-1170A: N/A</td>
</tr>
<tr>
<td>CompactFlash Slots</td>
<td>-</td>
<td>1 internal</td>
<td>1 internal</td>
<td>1 internal</td>
<td>1 internal</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>-10 – 70°C</td>
<td>-20 – 75°C</td>
<td>-10 – 60°C</td>
<td>-10 – 60°C</td>
<td>-10 – 65°C</td>
</tr>
<tr>
<td>Power Consumption</td>
<td>8.5 W</td>
<td>10 W</td>
<td>15 W</td>
<td>24 W</td>
<td>24 W</td>
</tr>
<tr>
<td>Dimension (W x D x H)</td>
<td>48 x 126 x 152 mm</td>
<td>71 x 139 x 152 mm</td>
<td>71 x 139 x 152 mm</td>
<td>85.5 x 139 x 152 mm</td>
<td>85.5 x 139 x 152 mm</td>
</tr>
<tr>
<td>Class II, Division 2 Certification</td>
<td>-</td>
<td>UNO-1140FH</td>
<td>UNO-1150GH</td>
<td>UNO-1150GE</td>
<td>UNO-1172AH</td>
</tr>
</tbody>
</table>

### Accessories

- UNO-FPM11: VESA mounting kit for UNO-1100 series
- DiagAnywhere: Remote Management and Control Utility

### Ordering Information

- UNO-1110-ACE: Ti Cortex AM3505 600MHz, 256MB RAM, WinCE6.0
- UNO-1110ALE: Ti Cortex AM3505 600MHz, 256MB RAM, Linux
- UNO-1140-V10E: EVA SoC, 64MB RAM, 4 x COM
- UNO-1140F-V10E: EVA SoC, 64MB RAM, 8 x COM
- UNO-1150G-630E: AMD LX800 500 MHz, 256MB RAM

### Accessories Ordering Information

- UNO-FPM11-AE: VESA mounting kit for UNO-1100 series
- PCLS-DIAGW10: DiagAnywhere Remote Management and Control Utility
UNO-2000 Series Introduction & Features

Compact Automation Computers

- Compact and Small with DIN-rail, Wallmount, and VESA-mount Support
- Industrial Onboard Isolated RS-232/422/485 and Isolated I/Os
- Wide Power Input Range up to 48 Vdc with Reverse Protection
- Low Power Consumption

Compact Design
The compact UNO-2000 series are designed to save space in working areas.

Diverse Onboard I/O
From isolated digital I/O lines to RS-232/422/485, the UNO-2000 series are ideal solutions for gateway, protocol converter and data server applications.

Multiple Mounting Solutions
Support DIN-rail, wallmount and standard VESA mounting, which provides easy installation.

Low Power Consumption
Low power consumption with sufficient computing power.
UNO-2050G
AMD GX3 Automation Computer with Isolated Digital I/O
-10~55°C
1. RS-232 x 2
2. VGA
3. KB/MS
4. Isolated DI/O x 16
5. LAN x 2
6. Isolated RS-232/422/485 x 2

UNO-2053GL
AMD GX3 Automation Computer with Dual LAN
-10~55°C
1. VGA
2. KB/MS
3. RS-232 x 2
4. USB x 2
5. LAN x 2
6. Audio

UNO-2059GL
AMD GX3 Automation Computer with RS-232/422/485
-10~55°C
1. RS-232/422/485 x 1
2. LAN x 1
3. RS-232/485 x 2
4. RS-232/422/485 x 1
5. VGA
6. KB/MS
7. USB x 2
UNO-2100 Series Introduction & Features

High-performance Automation Computers with Versatile Expansion

- Provides Diverse Communication Interfaces
- Compact and Small Footprint with DIN-rail, Wallmount, and VESA-mount Support
- Industrial Onboard RS-232/422/485, Supports Any Baud Rate up to 921.6kbps
- Industrial Power Design with Grounding Isolation between Chassis and System

High Density Cableless I/Os
I/Os like COMs, USBs, LANs and other interfaces with shock resistance and optional isolation.

Expansion Capability
Expansion for communications, I/Os, and Fieldbus from different interfaces such as PC/104+, Mini PCIe, etc.

Trusted Industrial Design
Full range of serial ports, e.g. RS-485 with any baud rate, chassis grounding and wide power input.

Wide CPU Selection and Operating Temperature Range
Selections from Intel Atom to Core 2 Duo computing power for various applications and designed for harsh environments.
UNO-2100 Series Introduction & Features
High-performance Automation Computers with Versatile Expansion

UNO-2173A/AF
Intel Atom N270 Automation Computers with 3 x COM, 2 x GbE

UNO-2174A/2178A
Intel Atom N450/D510 Automation Computers with 8 x COM, 2 x GbE

UNO-2174G/GL
Intel Celeron 847/807UE Automation Computers with HDMI/DVI/DP, 2 x Mini PCIe

UNO-2184G
Intel Core i7-2655LE Automation Computer with 4 x COM, 4 x GbE
Manufacturing Execution System for Production Automation

UNO-2173A
A Machine & Production Data Collector to Analyze and Report Data
- Front accessible I/Os for easy maintenance
- IP40 protection and a wide operating temperature range from -20 to 70°C
- Low power consumption and Energy Star certified

On-line Testing System in Factory Automation

UNO-2178A
Automatic Testing System Connecting to Diverse Devices and Sensors via Multiple COM Ports and Built-in PC/104 & PCI-104 DAQ Modules
- Intel Atom Dual Core CPU for processing high sampling speed data
- Shock-proof and interference resistant
- IP40 anti-dust approved with a wide operating temperature range from -10 to 70°C
- PCI-104 expansion for DAQ I/O card (Additional expansion kit required)
- Connects up to 8 COM ports for serial devices
SCADA Server for Distributed Monitoring of Unmanned Stations

UNO-2174A
Remote SCADA Server Collecting Equipment Data on Remote Unmanned Stations and Reporting to Central Control Room over LAN/Cellular Communication
- Up to 70°C wide temperature support and reliable fanless and cableless design to significantly reduce maintenance effort
- Collects equipment data from I/O modules and PCLs from serial ports and Fieldbus
- Wi-Fi/Cellular network support for connection with central control room
- DiagAnywhere for cluster monitoring management

Defect Inspection System on Production Line in Factory Automation

UNO-2184G
A Graphic Processing Controller to Implement Quality Checks on the Production Line
- High computing power for graphic processing
- Dual Gigabit LAN to connect to industrial IP cameras
- Built-in PCI-104 I/O modules for quality defect event trigger and handling
- Dual displays to monitor different data for its collection and interpretation
## UNO-2000/2100 Series Selection Guide

<table>
<thead>
<tr>
<th>Model Name</th>
<th>UNO-2050G/2053GL/2059GL</th>
<th>UNO-2170</th>
<th>UNO-2172</th>
<th>UNO-2173A/AF</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CPU</strong></td>
<td>AMD LX800, 500 MHz</td>
<td>Intel Celeron M, 600 MHz</td>
<td>Intel Celeron M, 1.0 GHz</td>
<td>Intel Atom N270, 1.6 GHz</td>
</tr>
<tr>
<td><strong>Onboard RAM</strong></td>
<td>256M DDR SRAM</td>
<td>256M/512M DDR SRAM</td>
<td>1G DDR2 SRAM</td>
<td>1G/2G DDR2 SRAM</td>
</tr>
<tr>
<td><strong>Battery-Backup RAM</strong></td>
<td>512 KB</td>
<td>512 KB</td>
<td>1 MB (reserved)</td>
<td></td>
</tr>
<tr>
<td><strong>Display</strong></td>
<td>VGA</td>
<td>VGA</td>
<td>DVI-i</td>
<td>VGA</td>
</tr>
<tr>
<td><strong>Audio</strong></td>
<td>Yes (UNO-2053GL)</td>
<td>-</td>
<td>Yes</td>
<td>5.1 Channel HD (UNO-2173AF)</td>
</tr>
<tr>
<td><strong>Serial Ports</strong></td>
<td>UNO-2050G: 2 x iso. RS-232/422/485</td>
<td>2 x RS-232</td>
<td>2 x RS-232</td>
<td>UNO-2173A: 2 x RS-232, 1 x RS-422/485</td>
</tr>
<tr>
<td><strong>Ethernet Ports</strong></td>
<td>UNO-2059GL: 1 x 10/100Base-T</td>
<td>2 x 10/100Base-T</td>
<td>2 x 10/100/1000Base-T</td>
<td>UNO-2173A: 1 x 10/100/1000Base-T</td>
</tr>
<tr>
<td><strong>USB Ports</strong></td>
<td>UNO-2053GL/2059GL: 2 external</td>
<td>2 external</td>
<td>2 external</td>
<td>UNO-2173A: 2 external</td>
</tr>
<tr>
<td><strong>PC Card Slots</strong></td>
<td>-</td>
<td>1</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Onboard I/O</strong></td>
<td>UNO-2050G: 8-ch iso. DI, 8-ch iso. DO</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>2.5 HDD</strong></td>
<td>-</td>
<td>1 x SATA</td>
<td>1 x SATA/DE</td>
<td>1 x SATA/IDE</td>
</tr>
<tr>
<td><strong>Expansion</strong></td>
<td>-</td>
<td>PC/104</td>
<td>PC-104</td>
<td>1 x Mini PCIe</td>
</tr>
<tr>
<td><strong>CompactFlash Slots</strong></td>
<td>1 internal</td>
<td>1 internal</td>
<td>1 internal</td>
<td>1 internal</td>
</tr>
<tr>
<td><strong>Operating Temperature</strong></td>
<td>-10 – 55°C</td>
<td>-20 – 50°C</td>
<td>-20 – 50°C</td>
<td>-20 – 70°C</td>
</tr>
<tr>
<td><strong>Power Consumption</strong></td>
<td>15 W</td>
<td>24 W</td>
<td>45 W</td>
<td>15 W</td>
</tr>
<tr>
<td><strong>Dimension (W x D x H)</strong></td>
<td>188.8 x 106.5 x 35.5 mm</td>
<td>255 x 152 x 50 mm</td>
<td>255 x 152 x 69 mm</td>
<td>255 x 152 x 59 mm</td>
</tr>
</tbody>
</table>

### Accessories

- **UNO-DIN21**
  - DIN-rail mounting kit for UNO-2100 series
- **UNO-FPM21**
  - VESA mounting kit for UNO-2000 series
- **UNO-HD20**
  - HDD expansion kit for UNO-2000 series
- **UNO-PCM21**
  - 2 x PC/104 expansion kit for UNO-2170
- **UNO-PCM22**
  - 2 x PC/104 expansion kit for UNO-2170 series
- **UNO-PCM23**
  - 1 x PCI-104, 1 x PC/104 expansion kit for UNO-2174A/2178A
- **UNO-PCM24**
  - 2 x PC/104 expansion kit for UNO-2184G/2174GL
- **UNO-2184HD-AE**
  - RAID accessory kit for UNO-2184G/2174G
- **PCLS-DIAGAW10**
  - DiagAnywhere Remote Management and Control Utility

### Accessories Ordering Information

- **UNO-DIN21-8E**
  - DIN-rail mounting kit for UNO-2100 series
- **UNO-FPM21-AE**
  - VESA mounting kit for UNO-2000 series
- **UNO-HD20-AE**
  - HDD expansion kit for UNO-2000 series
- **UNO-PCM21-AE**
  - 2 x PC/104 expansion kit for UNO-2170
- **UNO-PCM22-AE**
  - 2 x PC/104 expansion kit for UNO-2100 series
- **UNO-PCM23-AE**
  - 1 x PCI-104, 1 x PC/104+ expansion kit for UNO-2174A/2178A
- **UNO-PCM24-AE**
  - 2 x PC/104 expansion kit for UNO-2184G/2174G/2174GL
- **UNO-2184HD-AE**
  - RAID accessory kit for UNO-2184G/2174G
- **PCLS-DIAGAW10**
  - DiagAnywhere Remote Management and Control Utility
## Model Name
- **UNO-2174A/2178A**
- **UNO-2182**
- **UNO-2174G/GL**
- **UNO-2184G**

### CPU
- **UNO-2174A:** Intel Atom N450, 1.66 GHz
- **UNO-2178A:** Intel Atom Dual Core D510, 1.6 GHz
- **UNO-2182:** Intel Core 2 Duo L7400, 1.5 GHz
- **UNO-2174G/GL:** Intel Celeron 847/807 UE, 1.1/1.0 GHz
- **UNO-2184G:** Intel Core i7-2655LE, 2.2 GHz

### Onboard RAM
- **UNO-2174A:** 2G DDR2 SRAM
- **UNO-2178A:** 2G DDR2 SRAM
- **UNO-2182:** 4G DDR3 SDRAM
- **UNO-2174G/GL:** 4G/8G DDR3 SDRAM
- **UNO-2184G:**

### Battery-Backup SRAM
- **UNO-2174A:** 2G DDR2 SRAM
- **UNO-2178A:** 2G DDR2 SRAM
- **UNO-2182:** 1 MB (reserved)
- **UNO-2174G/GL:** 512 KB
- **UNO-2184G:**

### Display
- **UNO-2174A:** VGA
- **UNO-2178A:** DVI-I
- **UNO-2182:** DVI/HDMI/DP
- **UNO-2174G/GL:** DVI/HDMI/DP
- **UNO-2184G:** DVI/HDMI/DP

### Audio
- **UNO-2174A:** 5.1 Channel HD
- **UNO-2178A:** 5.1 Channel HD
- **UNO-2182:** 5.1 Channel HD
- **UNO-2174G/GL:** 5.1 Channel HD
- **UNO-2184G:** 5.1 Channel HD

### Serial Ports
- **UNO-2174A:** 2 x RS-232/485, 2 x RS-232/422/485
- **UNO-2178A:** 6 x RS-232/485, 2 x RS-232/422/485
- **UNO-2182:** 2 x RS-232
- **UNO-2174G/GL:** 2 x RS-232/422/485
- **UNO-2184G:** 2 x RS-232

### Ethernet Ports
- **UNO-2174A:** 2 x 10/100/1000Base-T
- **UNO-2178A:** 4 x 10/100/1000Base-T
- **UNO-2182:** 4 x 10/100/1000Base-T
- **UNO-2174G/GL:** 4 x 10/100/1000Base-T
- **UNO-2184G:** 4 x 10/100/1000Base-T

### USB Ports
- **UNO-2174A:** 6 external
- **UNO-2178A:** 6 external
- **UNO-2182:** 6 external
- **UNO-2174G/GL:** 6 external
- **UNO-2184G:** 6 external

### PC Card Slots
- **UNO-2174A:** -
- **UNO-2178A:** 1 x SATA
- **UNO-2182:** 1 x SATA/IDE
- **UNO-2174G/GL:** 2 x SATA (optional)
- **UNO-2184G:** 2 x SATA (optional)

### Onboard I/O
- **UNO-2174A:** -
- **UNO-2178A:** -
- **UNO-2182:** -
- **UNO-2174G/GL:** -
- **UNO-2184G:**

### 2.5 HDD
- **UNO-2174A:** 1 x SATA
- **UNO-2178A:** 1 x SATA/IDE
- **UNO-2182:** 1 x SATA
- **UNO-2174G/GL:** 2 x SATA (optional)
- **UNO-2184G:** 2 x SATA (optional)

### Expansion
- **UNO-2174A:** 2 x Mini PCIe with SIM card slot support, 1 x PCI-104, 1 x PC/104+
- **UNO-2178A:** 2 x Mini PCIe with SIM card slot support, 1 x PCI-104, 1 x PC/104+
- **UNO-2182:** 2 x Mini PCIe with SIM card slot support, 1 x PCI-104, 1 x PC/104+
- **UNO-2174G/GL:** 2 x Mini PCIe with SIM card slot support, 1 x PCI-104, 1 x PC/104+
- **UNO-2184G:** 2 x Mini PCIe with SIM card slot support, 1 x PCI-104, 1 x PC/104+

### CompactFlash Slots
- **UNO-2174A:** 1 external
- **UNO-2178A:** 1 internal
- **UNO-2182:** 1 external
- **UNO-2174G/GL:** 1 external
- **UNO-2184G:** 1 external

### Power Input Range
- **UNO-2174A:** 9 – 36 VDC
- **UNO-2178A:** 9 – 36 VDC
- **UNO-2182:** 9 – 36 VDC
- **UNO-2174G/GL:** 9 – 36 VDC
- **UNO-2184G:** 9 – 36 VDC

### Operating Temperature
- **UNO-2174A:** -10 ~ 70°C
- **UNO-2178A:** -20 ~ 60°C
- **UNO-2182:** -10 ~ 60°C
- **UNO-2174G/GL:** -10 ~ 60°C
- **UNO-2184G:** -10 ~ 60°C

### Power Consumption
- **UNO-2174A:** 16 W
- **UNO-2178A:** 35 W
- **UNO-2182:** 30 W/20 W
- **UNO-2174G/GL:** 40 W
- **UNO-2184G:**

### Dimension (W x D x H)
- **UNO-2174A:** 255 x 152 x 59 mm
- **UNO-2178A:** 255 x 152 x 59 mm
- **UNO-2182:** 255 x 152 x 69 mm
- **UNO-2174G/GL:** 255 x 152 x 69 mm
- **UNO-2184G:** 255 x 152 x 69 mm

### Ordering Information
- **UNO-2050G-G30E:** AMD LX800 500 MHz, 256MB RAM
- **UNO-2173AF-A12E:** Intel Atom N270 1.6 GHz, 1G RAM
- **UNO-2053GL-G30E:** AMD LX800 500 MHz, 256MB RAM
- **UNO-2173AF-A13E:** Intel Atom N270 1.6 GHz, 2G RAM
- **UNO-2059GL-G30E:** AMD LX800 500 MHz, 256MB RAM
- **UNO-2174A-A23E:** Intel Atom N450 1.6 GHz, 2G RAM
- **UNO-2170-C00BE:** Intel Celeron M 600 MHz, 256MB RAM
- **UNO-2174G-C54E:** Intel Celeron 847 1.1 GHz, 4 GB RAM
- **UNO-2171-P12CE:** Intel Pentium M 1.4 GHz, 1G RAM
- **UNO-2174GL-C44E:** Intel Celeron 807UE 1.0 GHz, 4 GB RAM
- **UNO-2172-C22BE:** Intel Celeron M 1.5 GHz, 1G RAM
- **UNO-2178A-A33E:** Intel Atom Dual Core D510 1.66 GHz, 2G RAM
- **UNO-2172-P22BE:** Intel Pentium M 1.6 GHz, 1G RAM
- **UNO-2182-D13BE:** Intel Core 2 Duo 1.5 GHz, 2G RAM
- **UNO-2173A-A12E:** Intel Atom N270 1.6 GHz, 1G RAM w/ front I/O
- **UNO-2184G-D44E:** Intel Core i7-2655LE 2.2 GHz, 4 GB RAM
- **UNO-2173A-A13E:** Intel Atom N270 1.6 GHz, 2G RAM w/ front I/O
- **UNO-2184G-D45E:** Intel Core i7-2655LE 2.2 GHz, 8 GB RAM

### Recommended Serial Communication Cards
- **PCM-3610**
  - 2 port RS-232/422/485 PC/104 Module with Isolation Protection
- **PCM-3614I**
  - 4-port RS-232/422/485 PCI-104 Module
- **PCM-3618I**
  - 8-port RS-232/422/485 PCI-104 Module
- **PCM-3680I**
  - 2 port CAN-bus PCI-104 Module with Isolation Protection
UNO-3000 Series Introduction and Features

Wallmount Automation Computers with PCI/PCle Expansion

- Wide Computing Power from Intel® Atom™ N270 1.6GHz to Core™ 2 Duo L7500 1.6GHz CPU
- Front I/O Design for Easy Cabling and Maintenance
- Dual SATA HDDs with RAID 0/1 and Network Teaming to Provide Transmission Redundancy
- Dual DVI-I Support for up to Three Displays
- PCI/PCle Expansion with Card Retainer

RAID 0/1 Support
With an additional RAID controller or optional onboard RAID functionality, data can be completely backed using the RAID 1 mirror function.

Front Accessible Design
To help wiring and setup, all I/O lines are located on the front panel of the UNO-3000 series. Easy installation of additional PCI boards and storage devices with a removable top cover.

Triple Displays
Triple screens benefit large machinery operations with operators on opposite sides.

LAN Redundancy (Teaming)
The UNO-3000 series support Ethernet teaming. When one Ethernet is not working, another port will immediately take over the transmission job. It also includes a load balancing feature that allows the workload to be evenly distributed across two networks.

Onboard IEEE-1394b Ports for Machine Vision Applications
The UNO-3000 series are equipped with IEEE-1394b and Gigabit LAN onboard, which allow machine vision application users to directly attach their machine vision cameras without purchasing additional interfaces.
**UNO-3072A/3074A**

Intel Atom D510 Automation Computers with 2/4 x PCI

- **Dual GbE LAN**
- **IEEE 1394b**
- **-10~60°C**

1. IEEE-1394b
2. eSATA
3. RS-232/422/485 x 2
4. USB x 4 and LAN x 2
5. VGA
6. Line Out
7. Isolated DI/O x 8
8. PCI x 4
9. Expansion Kit

**UNO-3072LA**

Intel Atom N270 Automation Computer with 2 x PCI

- **Dual GbE LAN**
- **Dual Displays**
- **-10~60°C**

1. Line Out
2. eSATA
3. RS-232/422/485 x 2
4. USB x 4 and LAN x 2
5. DVI-I
6. PCI x 2
7. Expansion Kit

**UNO-3082**

Intel Core 2 Duo Automation Computer with 2 x PCI

- **Triple Displays**
- **IEEE 1394b**
- **Isolated DI/O**
- **-10~55°C**

1. IEEE-1394b
2. Line Out
3. eSATA
4. RS-232/422/485 x 2
5. USB x 4 and LAN x 2
6. DVI-I x 2
7. Isolated DI/O x 8
8. PCI x 2
9. Expansion Kit

**UNO-3084**

Intel Core 2 Duo Automation Computer with 3 x PCI and 1 x PCIe

- **Triple Displays**
- **IEEE 1394b**
- **Isolated DI/O**
- **-10~55°C**

1. IEEE-1394b
2. Line Out
3. eSATA
4. RS-232/422/485 x 2
5. USB x 4 and LAN x 2
6. DVI-I x 2
7. Isolated DI/O x 8
8. PCI x 3 and PCIe x 1
9. Expansion Kit
UNO-3200 Series Introduction & Features

High-performance Automation Computers with PCI/PCle Expansion

- Superior Thermal Design Maintains System Temperature even during Full CPU & I/O Loads
- Dual DVI/VGA Displays, Dual Teaming-Capable Gigabit Ethernet Ports
- Battery-backup SRAM Saves Process Data in the Event of Power Failure
- Dual SATA HDDs with RAID 0/1 Support and Dual CF Slots
- PCI/PCle Expansion with Card Retainer

Ruggedized Design
No cabling or moving parts are present, guaranteeing system resilience in harsh environments.

LED Indicators for System & I/O Status
There are 16 LED system indicators and four programmable LEDs in the front panel. They are designed to help users to get system profile information at a glance and trigger user-defined alarm messages via programmable LEDs.
UNO-3272/3282

Intel Core 2 Duo/ Celeron M Automation Computers with 2 x PCI/ 1 x PCI and 1 x PCIe

Superior Thermal Design
The UNO-3200 series’ superior thermal design combines industrial-grade heat sinks and heat pipes to efficiently manage the system temperature.

RAID 0/1 Support
With an additional RAID controller or optional onboard RAID functionality, data can be completely backed up using the RAID 1 mirror function.

PCI Express and PCI Expansion
Next-generation PCI Express allows users to install high-speed I/Os & control boards. The UNO-3200 series offer both PCI and PCIe expansions.
Motion Vision Controller in PCB Inspection Machines

UNO-3072LA
Logistic Handling System
- 2 PCI slots for motion card to Servo motor and Fieldbus card expansion
- RS-485 COM port for LED display for inventory status
- Teaming function to ensure central control network

UNO-3084
Machine Vision in PCB Optical Inspection
- Onboard IEEE-1394b/ GbE to attach cameras for machine vision inspection
- Triple displays for inspection software, running status and inspection images
- Intel Power Core 2 Duo computing engine for intense visualization tasks
- PCI/PCIe slots for I/Os and motion cards

Dispatch System in Warehouse Automation

UNO-3072LA
Logistic Handling System
- 2 PCI slots for motion card to Servo motor and Fieldbus card expansion
- RS-485 COM port for LED display for inventory status
- Teaming function to ensure central control network
# UNO-3000/3200 Series Selection Guide

## Model Name

<table>
<thead>
<tr>
<th>Model Name</th>
<th>UNO-3072LA</th>
<th>UNO-3072A/3074A</th>
<th>UNO-3083G/3073G/GL</th>
<th>UNO-3085G/3075G/GL</th>
<th>UNO-3082</th>
<th>UNO-3084</th>
<th>UNO-3282</th>
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</thead>
<tbody>
<tr>
<td>CPU</td>
<td>Intel Atom N270, 1.6 GHz</td>
<td>Intel Atom Dual Core D510, 1.66 GHz</td>
<td>Intel Celeron 847/807E/ Core i7-2655LE, 1.1 GHz/1.0 GHz/2.2 GHz</td>
<td>Intel Core 2 Duo L7500, 1.6 GHz</td>
<td>Intel Core 2 Duo L7500, 1.6 GHz</td>
<td>Intel Celeron M, 1.6 GHz/2.6 GHz</td>
<td>Intel Core 2 Duo, 1.5 GHz</td>
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<td>Onboard RAM</td>
<td>1G/2G DDR2 SRAM</td>
<td>2G DDR2 SRAM</td>
<td>4G/8G DDR3 SRAM</td>
<td>2G DDR2 SRAM</td>
<td>2G/4G DDR2 SRAM</td>
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<td>Battery-Backup SRAM</td>
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<td>Display</td>
<td>DVI-I</td>
<td>VGA</td>
<td>DVI-I/DVI/DP</td>
<td>2 x DVI-I up to 3 displays</td>
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<td>VGA/DVI-D</td>
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<td>Audio</td>
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<td>Serial Ports</td>
<td>2 x RS-232 (pin header)</td>
<td>2 x RS-232/422/445</td>
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<td>2 x RS-232 (pin header)</td>
<td>2 x RS-232 (pin header)</td>
<td>2 x RS-232 (pin header)</td>
<td>2 x RS-232/445</td>
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<td>2 x 10/100/100Base-T</td>
<td>2 x 10/100/100Base-T</td>
<td>2 x 10/100/100Base-T</td>
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<td>2 x 10/100/100Base-T</td>
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<td>USB Ports</td>
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<td>4 external, 1 internal, 2 x pin headers</td>
<td>4 external, 1 internal, 2 x pin headers</td>
<td>4 external, 1 internal, 2 x pin headers</td>
<td>4 external, 1 internal, 2 x pin headers</td>
<td>4 external, 1 internal, 2 x pin headers</td>
<td>4 external, 1 internal, 2 x pin headers</td>
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<td>Onboard I/O</td>
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<tr>
<td>2.5 HDD</td>
<td>1 x SATA, 1 x eSATA</td>
<td>2 x SATA (RAID 0/1)</td>
<td>1 x eSATA</td>
<td>2 x SATA (RAID 0/1)</td>
<td>1 x eSATA</td>
<td>2 x SATA (RAID 0/1)</td>
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<td>CompactFlash Slots</td>
<td>1 internal, 1 external</td>
<td>1 internal, 1 external</td>
<td>1 internal, 1 external</td>
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<td>Operating Temperature</td>
<td>-10 – 60°C</td>
<td>-10 – 60°C</td>
<td>-10 – 60°C</td>
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<td>-10 – 55°C</td>
<td>-10 – 55°C</td>
<td>-20 – 60°C</td>
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<tr>
<td>Power Consumption</td>
<td>20 W</td>
<td>25 W</td>
<td>40 W</td>
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<td>Dimension (W x D x H)</td>
<td>140 x 238 x 177 mm</td>
<td>140 x 238 x 177 mm</td>
<td>157 x 238 x 177 mm</td>
<td>195 x 238 x 177 mm</td>
<td>200 x 240 x 130 mm</td>
<td>200 x 240 x 130 mm</td>
<td>200 x 240 x 130 mm</td>
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</tbody>
</table>

## Accessories

### UNO-PM70
- Panel mounting kit for UNO-3000 series

### UNO-SM70
- Stand mounting kit for UNO-3000 series

### UNO-WM72
- Wallmounting kit for UNO-3072/3072L

### UNO-WM74
- Wallmounting kit for UNO-3074

### UNO-PM80
- Panel mounting kit for UNO-3082/3084

### UNO-SM80
- Stand mounting kit for UNO-3082/3084

### UNO-WM80
- Wallmounting kit for UNO-3082/3084/3072L

### DiagAnywhere
- Remote Management and Control Utility

## Ordering Information

- **UNO-3072LA-A12E**: Intel Atom N270 1.6 GHz, 1G RAM
- **UNO-3072LA-A13E**: Intel Atom N270 1.6 GHz, 2G RAM
- **UNO-3072A-A33E**: Intel Atom Dual Core D510 1.66 GHz, 2G RAM
- **UNO-3074A-A33E**: Intel Atom Dual Core D510 1.66 GHz, 2G RAM
- **UNO-3082-D23E**: Intel Core 2 Duo 1.6 GHz, 2G RAM
- **UNO-3082-D24E**: Intel Core 2 Duo 1.6 GHz, 4G RAM
- **UNO-3084-D23E**: Intel Core 2 Duo 1.6 GHz, 2G RAM
- **UNO-3084-D24E**: Intel Core 2 Duo 1.6 GHz, 4G RAM
- **UNO-3272-C32E**: Intel Celeron M 1.86 GHz, 1G RAM
- **UNO-3282-D12E**: Intel Core 2 Duo 1.5 GHz, 1G RAM

## Accessories Ordering Information

- **UNO-PM70-AE**: Panel mounting kit for UNO-3000 series
- **UNO-SM70-AE**: Stand mounting kit for UNO-3000 series
- **UNO-WM72-AE**: Wallmounting kit for UNO-3072/3072L
- **UNO-WM74-AE**: Wallmounting kit for UNO-3074
- **UNO-WM80-AE**: Wallmounting kit for UNO-3082/3084/3072L
- **UNO-PMS80-AE**: Panel mounting kit for UNO-3082/3084
- **UNO-SM80-AE**: Stand mounting kit for UNO-3082/3084
- **PCLS-DIAGAW10**: DiagAnywhere Remote Management and Control Utility
- **9663308401E**: USB x 2 for UNO-3000 series
- **9663308402E**: LPT x 1 for UNO-3000 series
- **9663308403E**: RS-232 COM port x 2 and PS2 x 1 for UNO-3000 series
UNO-4600 Series Introduction & Features

Substation Automation Computers

• IEC 61850-3 and IEEE 1613 Standards for Smart Grid Applications
• Compact 2U Rackmount Form Factor to Fit Substation Environments
• Advanced Monitoring and Alarm Features to Ensure Best System Stability
• 3 Expansion Slots for Adding Domain I/Os
• Dual power supplier for system power backup

Substation Domain I/O Modules
The UNO-4600 series are equipped with channel-to-channel isolated COM ports and 3 expansion slots for domain I/O modules, such as IRIG-B and Fiber Optic.

-20~70°C Wide Operating Temperature Range
Every Embedded Automation Computer is equipped with a tailor-made thermal design for its onboard CPU and RAM. To guarantee its best quality, every Embedded Automation Computer is also required to go through a complete thermal test procedure.

Advanced Monitoring and Alarm Function
The UNO-4673A/4683 provide the multi-tier watchdog timer and DO trigger by events. Also, Advantech DiagAnywhere utility enables remote management and diagnosis.

IEC 61850-3 and IEEE 1613 Compliant
The UNO-4600 series have robust design on power circuitry, I/O lines, etc., to protect the system from electromagnetic interference in critical substation environments.
**UNO-4672**

Intel Celeron M/ Pentium M Automation Computer with 10 x COM, 6 x LAN

- PC/104+
- Isolated DI/O
- -20~65°C

- 1. USB 2.0 x 3
- 2. DI/DO with Timer/Counter x 8
- 3. RS-232/422/485 x 8
- 4. UNO-P154/P166/P168
- 5. 106 ~ 250 Vdc Power Input
- 6. 90 ~ 250 Vac Power Input
- 7. GigaLAN x 2 and FE x 4
- 8. VGA
- 9. Isolated RS-232 x 2

**UNO-4678**

Intel Celeron M Automation Computer with 8 x COM, 3 x LAN

- 1U Rack
- 10~55°C

- 1. PS/2 Mouse/Keyboard
- 2. USB 2.0 x 2
- 3. 24 Vdc Power Input
- 4. LAN x 3
- 5. VGA
- 6. Isolated RS-232 x 2
- 7. Isolated RS-232/422/485 x 6

**UNO-4673A/UNO-4683**

Intel Atom D510/ Core i7 Automation Computers with Domain I/O Expansions

- Dual GbE
- Quad FE
- -20~70°C

- 1. VGA or Dual DVI
- 2. GigaLAN x 2 and FE x 4
- 3. PS/2 Mouse/Keyboard
- 4. Audio Line-out
- 5. Isolated RS-232/422/485 x 2
- 6. USB 2.0 x 5
- 7. Domain I/O Expansions x 3
- 8. 106 ~ 250 Vdc Power Input
- 9. 100 ~ 240 Vac Power Input
Certified Automation Computers in Modern Substations of Smart Grids

Certified Platforms with Domain I/Os to Fulfill Communication Gateway, Network Recorder Analyzer, and Unified Threat Management System in Substations

- Advanced robust design on power circuitry and I/O lines to protect the system from electromagnetic interference
- Provides versatile domain I/O modules, such as isolated COM ports, IRIG-B and Fiber Optic to fulfill the I/O requirements of different application scenarios
- Fiber Optic module for Unified Threat Management (UTM) System
- Smart LAN module implemented by high-speed I/O technology to record and analyze IEC 61850 network packets

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**Diagram:**

- Supervisor Server
- GPS Receiver
- EKI Switch
- UNC-4683 Network Recorder/Analyzer
- UNC-4673A UTM Platform
- UNC-4672 Protocol Server/Data Gateway
- Data Gateway
- IED
- Transducer
- IED
- IED
- IED

**Connections:**

- Fiber Optics
- Ethernet
- Serial (RS-232/422/485)
- I/O, Device, VGA
- APAX Local Bus

**Legend:**

- Fiber Optics
- Ethernet
- Serial (RS-232/422/485)
- I/O, Device, VGA
- APAX Local Bus
**UNO-4600 Series Selection Guide**

### Ordering Information

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<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>CPU</td>
<td>Intel Atom Dual Core D510, 1.66 GHz</td>
<td>Intel Celeron M 1.0 GHz</td>
<td>Intel Atom Dual Core D510, 1.67 GHz</td>
<td>Intel Core i7 620LE, 2.0 GHz</td>
</tr>
<tr>
<td>Onboard RAM</td>
<td>2 GB DDR2 SDRAM</td>
<td>1G DDR RAM</td>
<td>2G DDR2/4G DDR3 SDRAM</td>
<td>512MB/1G DDR SDRAM</td>
</tr>
<tr>
<td>Battery-Backup SRAM</td>
<td>-</td>
<td>512 KB</td>
<td>1 MB</td>
<td>512 KB</td>
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<tr>
<td>Display</td>
<td>VGA</td>
<td>VGA</td>
<td>VGA/ DVI-I + DVI-D</td>
<td>VGA</td>
</tr>
<tr>
<td>Serial Ports</td>
<td>2 x RS-232, 4 x RS-422/485</td>
<td>8 x RS-232</td>
<td>2 x RS-232/422/485</td>
<td>8 x RS-232/422/485</td>
</tr>
<tr>
<td>Ethernet Ports</td>
<td>6 x 10/100Base-T</td>
<td>2 x 10/100/1000Base-T</td>
<td>2 x 10/100/1000Base-T</td>
<td>3 x 10/100Base-T</td>
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<tr>
<td>USB Ports</td>
<td>3 external, 1 internal</td>
<td>3 external, 1 internal</td>
<td>5 external, 1 internal</td>
<td>2 external</td>
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<tr>
<td>Onboard I/O</td>
<td>-</td>
<td>8-ch iso. DI</td>
<td>-</td>
<td>-</td>
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<tr>
<td>2.5 HDD</td>
<td>1 x SATA</td>
<td>1 x SATA</td>
<td>1 x SATA</td>
<td>2 x IDE</td>
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<tr>
<td>Expansion</td>
<td>PCI-104</td>
<td>PCI/104+</td>
<td>Optional for PCI, PCI-104, Mini PCI, Mini PCIe</td>
<td>PO/104</td>
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<tr>
<td>CompactFlash Slots</td>
<td>1 internal</td>
<td>2 internal</td>
<td>1 internal</td>
<td>1 internal</td>
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<tr>
<td>Power Input Range</td>
<td>100 – 240 Vac</td>
<td>90 – 250 Vac (47–400 Hz)</td>
<td>106 – 250 Vac (47–63Hz)</td>
<td>9 – 36 Vac</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>-20 – 60°C</td>
<td>-20 – 70°C</td>
<td>-20 – 70°C</td>
<td>-10 – 55°C</td>
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<tr>
<td>IEC-61000-4-2: ESD</td>
<td>Contact 8KV</td>
<td>Contact 8KV</td>
<td>Contact 8KV</td>
<td>Contact 8KV</td>
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<tr>
<td>IEC-61000-4-3: EFT</td>
<td>4KV</td>
<td>4KV</td>
<td>4KV</td>
<td>2KV</td>
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<tr>
<td>Power Consumption</td>
<td>30 W</td>
<td>45 W</td>
<td>45 W</td>
<td>24 W</td>
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<tr>
<td>Dimension (W x D x H)</td>
<td>440 x 220 x 88 mm</td>
<td>440 x 220 x 88 mm</td>
<td>440 x 280 x 88 mm</td>
<td>440 x 220 x 44 mm</td>
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### Accessory Ordering Information

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<tbody>
<tr>
<td>Description</td>
<td>2-port Fiber Optic LAN, 4-port Fiber Optic Smart LAN card, 1-port IRIG-B</td>
<td>6-port RS-232/422/485 w/ iso. and EFT, 1-port IRIG-B</td>
<td>8-port RS-232/422/485 w/ iso. and EFT</td>
<td>Expansion card for standard PCI and Mini PCIe card</td>
<td>Expansion card for standard PCI-104 and Mini PCIe card</td>
<td>4-port Fiber Optic LAN card</td>
<td>8-port RS-232/422/485 w/EFT protection</td>
<td>8-port RS-232/422/485 w/iso and EFT</td>
<td>4-port RS-232/422/485 w/iso and EFT, 1-port IRIG-B</td>
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</table>

### Domain I/O Modules for UNO-4672

- **UNO-P154**
  - 2 x 100Base-FX
  - 4 x RS-422/485
  - LED Indicators
  - PCI-104

- **UNO-P166**
  - 6 x 100Base-FX
  - 2 x RS-422/485
  - LED Indicators
  - PCI-104

- **UNO-P168**
  - 8 x 100Base-FX
  - 2 x RS-422/485
  - LED Indicators
  - PCI-104

### Domain I/O Modules for UNO-4673A & UNO-4683

- **UNOP-1000I**
  - PO slot (PCI 2.2)
  - Mini PCIe card slot

- **UNOP-1000J**
  - PCI-104
  - Mini PCIe card slot

- **UNOP-1514C**
  - LAN 100Base-FX
  - Distance : Up to 2 km
  - IEEE 802.3, 802.3a, 802.3z
  - Isolation 2000V
  - EFT protection 2000V
  - Automatic RS-485 Data Flow Control
  - IRIG-B via RS-485, TTL, Fiber, BNC

- **UNOP-1624D**
  - 4 x COM (DB9)
  - Selectable RS-232/422/485
  - Isolation 2500V
  - EFT protection 2500V
  - Automatic RS-485 Data Flow Control
### Regional Service & Customization Centers

<table>
<thead>
<tr>
<th>China</th>
<th>Taiwan</th>
<th>Netherlands</th>
<th>Poland</th>
<th>USA/ Canada</th>
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<tr>
<td>Kunshan</td>
<td>Taipei</td>
<td>Eindhoven</td>
<td>Warsaw</td>
<td>Milpitas, CA</td>
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### Worldwide Offices

#### Greater China

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<thead>
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<th>Country</th>
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<tr>
<td>China</td>
<td></td>
<td>Beijing</td>
<td>86-10-6298-4346</td>
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<td>Shanghai</td>
<td>86-21-3632-1616</td>
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<td>Shenzhen</td>
<td>86-755-8212-4222</td>
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<td>86-28-8545-0198</td>
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<td>Hong Kong</td>
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<td>886-2-988-6218</td>
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<td>Taichung</td>
<td>886-4-2378-8250</td>
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<td>Kaohsiung</td>
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#### Asia Pacific

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<td>Japan</td>
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<td>81-3-6802-1021</td>
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#### Europe

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<td>Benelux &amp; Nordics</td>
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#### Americas

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<td>North America</td>
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<td>Cincinnati</td>
<td>1-888-576-9668</td>
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