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

Renewable Energy

Building Automation

Environmental Monitoring

Machine Automation

Factory & Process Automation

Power & Energy

Oil & Gas

Transportation

Water Treatment

Domain Focused

Open & Robust
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™2 Duo L7500 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.
Advantech's fanless 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.

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.

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 Recording
- Device Grouping
- Screen Snapshot

**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/TCP OPC Server**
- **APAX OPC Server**
- **UNO-3000G**
- **UNO-2059GL**
- **UNO-1100H**
- **UNO-1150GH/GHE**
- **UNO-1172AH**

**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 HMI’s 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 Certifications**

Advantech’s Embedded Automation Computers are designed for domain certifications in energy and hazardous locations. With certified designs and domain-specific I/O offerings, 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-114FH</td>
<td>TA</td>
</tr>
<tr>
<td>UNO-11500F</td>
<td>TA</td>
</tr>
<tr>
<td>UNO-1172FH</td>
<td>TS</td>
</tr>
</tbody>
</table>

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

- **US: ANSI/ISA 12.12.01-2007**
  - 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.

**Rich Expansions**

Advantech’s Embedded Automation Computers support versatile expansion interfaces for domain I/Os.

<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>35V/m</td>
</tr>
<tr>
<td>IEC-61000-4-4</td>
<td>EFT</td>
<td>4KV</td>
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<tr>
<td>IEC-61000-4-5</td>
<td>Surge</td>
<td>5KV</td>
</tr>
</tbody>
</table>

**UNO-3000 Series with PC/104+ and Mini PCle**

**UNO-4600 Series with Domain I/O Expansions**

**UNO-1100 Series with PC/104+ and Mini PCle**

**UNO-2100 Series with PC/104+ and Mini PCle**
UNO-1100 Series Introduction & Features
DIN-rail Automation Computers for Control Cabinets

- Fanless, No Internal Cabling 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 Altitude up to 13,200 Feet (4,000 Meters)

Class I, Division 2 Certification
Tested and designed for CED2 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.

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 PCI/104+, it enables users to easily integrate wireless connections and Fieldbus I/O modules in a single package.

Designed for Control Cabinets
Compact size, DIN-rail mount and front-accessible I/Os for simplified installation and management in cabinets.
## UNO-1100 Series Selection Guide

<table>
<thead>
<tr>
<th>Model Name</th>
<th>UNO-1019</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>XScale PXA255, 300 MHz</td>
<td>PXA255 486SX grade, 150 MHz</td>
<td>AMD LX800, 250 MHz</td>
<td>Intel Atom N270, 1.6 GHz</td>
<td>Intel Atom Dual Core D510, 1.87 GHz</td>
</tr>
<tr>
<td>RAM</td>
<td>64M SDRAM</td>
<td>64M Industrial SDRAM</td>
<td>256M DDR 2</td>
<td>1GB DDR2 SDRAM</td>
<td>2GB DDR2 SDRAM</td>
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<tr>
<td>Battery Backup SRAM</td>
<td>-</td>
<td>512 KB</td>
<td>-</td>
<td>512 KB</td>
<td>1 MB</td>
</tr>
<tr>
<td>Display</td>
<td>-</td>
<td>VGA</td>
<td>VGA</td>
<td>VGA</td>
<td>VGA</td>
</tr>
<tr>
<td>Audio</td>
<td>-</td>
<td>-</td>
<td>Yes</td>
<td>Yes</td>
<td>5.1 channel HD Audio</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>1 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>Expansion</td>
<td>-</td>
<td>-</td>
<td>UNO-1130G, 1 x PCI, 1 x ISA</td>
<td>UNO-1130G, 1 x ISA</td>
<td>UNO-1130G, 1 x ISA</td>
</tr>
<tr>
<td>Expansion Ports</td>
<td>2 x RS-232, 2 x RS-485</td>
<td>2 x RS-232, 2 x RS-485</td>
<td>2 x RS-232, 2 x RS-485</td>
<td>2 x RS-232, 2 x RS-485</td>
<td>2 x RS-232, 2 x RS-485</td>
</tr>
<tr>
<td>Power Input Range</td>
<td>10 ~ 30 VDC</td>
<td>9 ~ 36 VDC</td>
<td>10 ~ 36 VDC</td>
<td>10 ~ 36 VDC</td>
<td>10 ~ 36 VDC</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>0 ~ 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 130 x 152 mm</td>
<td>71 x 130 x 152 mm</td>
<td>111 x 130 x 152 mm</td>
<td>111 x 130 x 152 mm</td>
<td>111 x 130 x 152 mm</td>
</tr>
</tbody>
</table>

### 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

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**UNO-1100 Series**

#### 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

---

**UNO-1170A/1170AE**

- **SoftLogic Controller for Factory Automation**
- 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
**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
- Dual LAN
- Isolated: 32
- -55°C

1. RS-232 x 2
2. USB
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
- Dual Serial
- Audio
- -55°C

1. VGA
2. RS-232
3. RS-232
4. USB x 2
5. LAN x 2
6. Audio

---

**UNO-2059GL**
AMD GX3 Automation Computer with RS-232/422/485
- Dual USB
- 1. RS-232/485 x 1
2. USB x 2
3. RS-232/422 x 1
4. RS-232/485 x 2
5. VGA
6. KB/MS
7. LAN 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-2173A/AF
Intel Atom N270 Automation Computers with 3 x COM, 2 x GbE

UNO-2174A/2178A
Intel Atom D510/ N450 Automation Computers with 8 x COM, 2 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 efforts
- 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-2182
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 PC/104 I/O modules for quality defect event trigger and handling
- Dual displays to monitor different data for its collection and interpretation

Automatic Data Collector Connecting to Diverse Devices and Sensors via Multiple COM Ports and Built-in PC/104 & PCI-104 DAQ Modules
UNO-2000/2100 Series Selection Guide

### Dimension (W x D x H)
- UNO-2000: 188.8 x 106.5 x 35.5 mm
- UNO-2100: 255 x 152 x 59 mm
- UNO-2170: 255 x 152 x 69 mm

### Power Consumption
- UNO-2000: 15 W
- UNO-2100: 24 W
- UNO-2170: 24 W
- UNO-2171: 35 W

### Operating Temperature
- UNO-2000: -10 ~ 55°C
- UNO-2100: -20 ~ 50°C
- UNO-2170: -20 ~ 65°C
- UNO-2171: -20 ~ 50°C

### PC Card Slots
- UNO-2000: -
- UNO-2100: -

### USB Ports
- UNO-2053GL/2059GL: 2 external
- UNO-2170: 2 x 10/100Base-T
- UNO-2171: 2 x 10/100Base-T
- UNO-2172: 2 x 10/100Base-T

### Audio
- UART (UNO-2053GL)
- Yes
- Yes

### Onboard I/O
- UNO-2050G/2053GL/2059GL: 2 x iso. RS-232/422/485
- UNO-2059GL: 2 x RS-232/485, 2 x 10/100Base-T

### Serial Ports
- UNO-2050G-2053GL/2059GL: 2 x 10/100Base-T
- 9 ~ 36 VDC

### Expansion PC/104
- UNO-2050G/2053GL/2059GL: 1 x PCI-104
- 2 x RS-232/422/485

### Accessories Ordering Information

### Accessories
- UNO-2000/2100 Series:
  - DIN-rail mounting kit for UNO-2100 series
  - UNO-DIN21
  - UNO-FPM21
  - UNO-HD20
  - UNO-PCM21
  - UNO-PCM22
  - UNO-PCM23
  - DiagAnywhere

### PCLS-DIAGAW10
- DiagAnywhere Remote Management and Control Utility

### Recommended Serial Communication Cards

### Ordering Information

**CPU**
- Intel Atom N3350, 1.1 GHz
- Intel Atom N3450, 1.15 GHz
- Intel Atom N400, 1.67 GHz
- Intel Core 2 Duo 1.66 GHz, 1.6 GHz

**Display**
- 1 MB (reserved)
- 1 MB (reserved)
- 1 MB (reserved)
- 1 MB (reserved)

**Audio**
- 5.1 Channel HD
- Yes

**Power Input Range**
- 10 ~ 48 VDC
- 9 ~ 36 VDC
- 10 ~ 53 VDC
- 9 ~ 36 VDC

**Expansion Slot**
- 1 x PCIe Slot
- 1 x PCIe Slot
- 1 x PCIe Slot
- 1 x PCIe Slot

**Battery Backup SRAM**
- 512 KB
- 1 MB
- 1 MB
- 512 KB

**Serial Ports**
- 2 x RS-232
- 2 x RS-232
- 2 x RS-232
- 2 x RS-232

**Serial Ports**
- 2 x 10/100Base-T
- 2 x 10/100Base-T
- 2 x 10/100Base-T
- 2 x 10/100Base-T

**USB Ports**
- 2 external
- 2 external
- 2 external
- 2 external

**Onboard RAM**
- 512M DDR SRAM
- 1G/2G DDR2 SRAM
- 2G DDR2 SRAM
- 2G DDR2 SRAM

**HDD**
- 2 x 10/100/1000Base-T
- 2 x 10/100/1000Base-T
- 2 x 10/100/1000Base-T
- 2 x 10/100/1000Base-T

**PC Card Slots**
- -
- 1
- 1
- 1

**Recommended Serial Communication Cards**

**Accessories**
- UNO-DIN21
- UNO-FPM21
- UNO-HD20
- UNO-PCM21
- UNO-PCM22
- UNO-PCM23
- DiagAnywhere

**UNO-2000/2100 Series**

**UNO-2176**
- Intel Celeron M 600 MHz, 256MB RAM

**UNO-2173A-A23E**
- Intel Core 2 Duo 1.66 GHz, 1.6 GHz

**UNO-2173AF-A13E**
- Intel Atom N270 1.6 GHz, 2G RAM

**UNO-2174A-A23E**
- Intel Atom Dual Core 1.67 GHz, 1.67 GHz

**UNO-2175-A22BE**
- Intel Atom Dual Core 1.6 GHz, 1.6 GHz
UNO-3000 Series Introduction and Features

Wallmount Automation Computers with PCI/PCIe 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/PCIe 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 (Teamig)
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-3200 Series Introduction & Features

High-performance Automation Computers with PCI/PCIe 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/PCIe 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.

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 PCIe 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.

UNO-3272/3282
Intel Core 2 Duo/ Celeron M Automation Computers with 2 x PCI/ 1 x PCI and 1 x PCIe

Dual GbE
-20~60°C
### UNO-3000/3200 Series Selection Guide

<table>
<thead>
<tr>
<th>Model Name</th>
<th>UNO-3072LA</th>
<th>UNO-3072A</th>
<th>UNO-3074A</th>
<th>UNO-3082</th>
<th>UNO-3084</th>
<th>UNO-3282</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPU</td>
<td>Intel Atom N270, 1.6 GHz</td>
<td>Intel Atom Dual Core D510, 1.8 GHz</td>
<td>Intel Atom Dual Core D510, 1.6 GHz</td>
<td>Intel Core 2 Duo E7500, 2.93 GHz</td>
<td>Intel Core 2 Duo E7500, 2.93 GHz</td>
<td>Intel Core 2 Duo E7500, 2.93 GHz</td>
</tr>
<tr>
<td>_DDR RAM</td>
<td>2GB DDR2 SDRAM</td>
<td>2GB DDR2 SDRAM</td>
<td>2GB DDR2 SDRAM</td>
<td>4GB DDR2 SDRAM</td>
<td>4GB DDR2 SDRAM</td>
<td>4GB DDR2 SDRAM</td>
</tr>
<tr>
<td>Battery Backup</td>
<td>512 KB</td>
<td>512 KB</td>
<td>512 KB</td>
<td>512 KB</td>
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<td>512 KB</td>
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<tr>
<td>Display</td>
<td>VGA</td>
<td>VGA</td>
<td>VGA</td>
<td>VGA</td>
<td>VGA + DVI-D</td>
<td>VGA + DVI-D</td>
</tr>
<tr>
<td>Serial Ports</td>
<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 (pin header)</td>
<td>2 x RS-232 (pin header)</td>
<td>2 x RS-232 (pin header)</td>
</tr>
<tr>
<td>Ethernet Ports</td>
<td>2 x 10/100/1000Base-T</td>
<td>2 x 10/100/1000Base-T</td>
<td>2 x 10/100/1000Base-T</td>
<td>2 x 10/100/1000Base-T</td>
<td>2 x 10/100/1000Base-T</td>
<td>2 x 10/100/1000Base-T</td>
</tr>
<tr>
<td>USB Ports</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>
<td>4 external, 1 internal, 2 x pin headers</td>
</tr>
<tr>
<td>Onboard I/O</td>
<td>4 x PCIe x 1</td>
<td>4 x PCIe x 1</td>
<td>4 x PCIe x 1</td>
<td>4 x PCIe x 1</td>
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</tr>
<tr>
<td>Onboard Slot</td>
<td>2 x 9663308401E</td>
<td>2 x 9663308402E</td>
<td>2 x 9663308403E</td>
<td>2 x 9663308404E</td>
<td>2 x 9663308405E</td>
<td>2 x 9663308406E</td>
</tr>
<tr>
<td>Onboard Slot</td>
<td>1 x PCI</td>
<td>1 x PCI</td>
<td>1 x PCI</td>
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<td>1 x PCI</td>
</tr>
<tr>
<td>Onboard Slot</td>
<td>1 x eSATA</td>
<td>1 x eSATA</td>
<td>1 x eSATA</td>
<td>1 x eSATA</td>
<td>1 x eSATA</td>
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<tr>
<td>Onboard Slot</td>
<td>2 x SATA (RAID 0/1)</td>
<td>2 x SATA (RAID 0/1)</td>
<td>2 x SATA (RAID 0/1)</td>
<td>2 x SATA (RAID 0/1)</td>
<td>2 x SATA (RAID 0/1)</td>
<td>2 x SATA (RAID 0/1)</td>
</tr>
<tr>
<td>Onboard Slot</td>
<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 (pin header)</td>
<td>2 x RS-232 (pin header)</td>
<td>2 x RS-232 (pin header)</td>
</tr>
<tr>
<td>Onboard Slot</td>
<td>2 x PCI</td>
<td>2 x PCI</td>
<td>2 x PCI</td>
<td>2 x PCI</td>
<td>2 x PCI</td>
<td>2 x PCI</td>
</tr>
<tr>
<td>Power Supply</td>
<td>20 W</td>
<td>25 W</td>
<td>25 W</td>
<td>40 W</td>
<td>40 W</td>
<td>40 W</td>
</tr>
<tr>
<td>Power Supply</td>
<td>25 W</td>
<td>25 W</td>
<td>25 W</td>
<td>40 W</td>
<td>40 W</td>
<td>40 W</td>
</tr>
<tr>
<td>Power Supply</td>
<td>140 x 228 x 177 mm</td>
<td>140 x 238 x 177 mm</td>
<td>140 x 238 x 177 mm</td>
<td>140 x 238 x 177 mm</td>
<td>140 x 238 x 177 mm</td>
<td>202 x 240 x 130 mm</td>
</tr>
<tr>
<td>Accessories</td>
<td>UNO-PB70</td>
<td>UNO-MS70</td>
<td>UNO-WM72</td>
<td>UNO-WM74</td>
<td>UNO-PB80</td>
<td>UNO-MS80</td>
</tr>
<tr>
<td>Accessories</td>
<td>Panel mounting kit for UNO-3000 series</td>
<td>Stand mounting kit for UNO-3000 series</td>
<td>Wallmounting kit for UNO-3000/3200 series</td>
<td>Wallmounting kit for UNO-3000/3200 series</td>
<td>Panel mounting kit for UNO-3000/3200 series</td>
<td>Stand mounting kit for UNO-3000/3200 series</td>
</tr>
</tbody>
</table>

### UNO-3000/3200 Series Specifications

- **Model Name**: UNO-3072LA, UNO-3072A, UNO-3074A, UNO-3082, UNO-3084, UNO-3282
- **CPU**: Intel Atom N270, 1.6 GHz
- **Memory**: 2GB DDR2 SDRAM
- **Battery Backup**: 512 KB
- **Display**: VGA
- **Tea**: 2 x RS-232/422/485
- **Serial Ports**: 2 x RS-232 (pin header)
- **Ethernet Ports**: 2 x 10/100/1000Base-T
- **USB Ports**: 4 external, 1 internal, 2 x pin headers
- **Onboard I/O**: 4 x PCIe x 1
- **Power Supply**: 20 W
- **Dimensions**: 140 x 228 x 177 mm

### Accessories

- **Panel mounting kit for UNO-3000 series**: UNO-PB70
- **Stand mounting kit for UNO-3000 series**: UNO-MB70-AE
- **Wallmounting kit for UNO-3000/3200 series**: UNO-MS70-AE
- **DiagAnywhere Remote Management and Control Utility**: UNO-SM70-AE

### Ordering Information

- **Model Name**: UNO-3072LA
- **CPU**: Intel Atom N270, 1.6 GHz, 10 RAM
- **Memory**: 2GB DDR2 SDRAM
- **Battery Backup**: 512 KB
- **Display**: VGA
- **Tea**: 2 x RS-232/422/485
- **Serial Ports**: 2 x RS-232 (pin header)
- **Ethernet Ports**: 2 x 10/100/1000Base-T
- **USB Ports**: 4 external, 1 internal, 2 x pin headers
- **Onboard I/O**: 4 x PCIe x 1
- **Power Supply**: 20 W
- **Dimensions**: 140 x 228 x 177 mm

### Additional Information

- **UNO-3000/3200 Series**
- **Motion Vision Controller in PCB Inspection Machines**
- **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-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/PCI slots for I/Os and motion cards
**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

**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.

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**UNO-4672**

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

**UNO-4678**

Intel Celeron M Automation Computer with 6 x COM, 3 x LAN

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

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

UNO-4600 Series

Ordering information

UNO-4672-CL: Intel Celeron M 1.0 GHz, 1G DDR RAM
UNO-4672-CL: Intel Pentium M 1.4 GHz, 1G DDR RAM
UNO-4672-CU: Intel Core i7 2.0 GHz, 4G DDR3 RAM
UNO-4672-CU: Intel Core i7 2.0 GHz, 8G DDR4 RAM

Accessory Ordering Information

UNP-1514: 4-port fiber optic LAN card
UNP-1610: 8-port RS-232/422/485 w/Iso and EFT
UNP-1628D: 8-port RS-232/422/485 w/Iso and EFT

Domain I/O Modules for UNO-4672

- 2-port Fiber Optic LAN
- 4-port RS-232/422/485
- 8-port RS-232/422/485
- 4-port RS-232/422/485 w/Iso and EFT

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

- 4-port Fiber Optic LAN card
- 8-port RS-232/422/485 w/Iso and EFT

UNO-4600 Series Selection Guide

Model Name | UNO-4672 | UNO-4672A | UNO-4683 | UNO-4678
--- | --- | --- | --- | ---
CPU | Intel Celeron M 1.0 GHz, 1G DDR | Intel Core i7 2.0 GHz, 8G DDR | Intel Core i7 2.0 GHz, 8G DDR | Intel Celeron M 1.0 GHz, 1G DDR

Onboard RAM | 1G DDR2/4 SRAM | 2G DDR2/4 DDR2/4 SRAM | 2G DDR2/4 DDR2/4 SRAM | 1G DDR2/4 DDR2/4 SRAM

Battery Backup SRAM | 512 KB | 1 MB | 512 KB | 1 MB

Display | VGA | VGA (DVI-I + DVI-D) | VGA | VGA (DVI-I + DVI-D)


Ethernet Ports | 2 x 10/100/1000Base-T | 4 x 10/100Base-T | 2 x 10/100Base-T | 4 x 10/100Base-T

USB Ports | 3 external, 1 internal | 2 external | 2 external | 1 external

Onboard I/O | 8-ch iso. DI | 8-ch iso. DI | 8-ch iso. DI | 8-ch iso. DI

Expansion | 3 x expansion slots | 1 x expansion slot | 1 x expansion slot | 1 x expansion slot

Power Input Range | 90 ~ 250 VAC (47~400 Hz) | 106 ~ 250 VDC | 106 ~ 250 VAC (47~63Hz) | 100 ~ 240 VDC

Operating Temperature | -20 ~ 65°C | -20 ~ 70°C | -10 ~ 55°C | -10 ~ 55°C