

Universal Network Controller UNO-2000/3000

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UNO-2000/3000 Series Universal Network Controllers



Introduction

If you are looking for a suitable embedded application ready platform (ARP) that can shorten your development time and offer rich networking interfaces to fulfill your extensive needs for different kinds of projects, Advantech UNO series is a great solution.

Leveraging field-approved and worldwide accepted real-time OS technology, Advantech UNO series provides a Windows CE .NET and Windows XP Embedded ready solution and supports several standard networking interfaces, such as Ethernet, Wireless Ethernet, RS-232/422/485, on-board I/O interfaces, PC cards, and so on. Because of its open architecture, great expansion capability and reliable fanless and diskless design, Advantech UNO series is an ideal platform to implement diverse custom industrial applications. Applications such as SoftLogic controllers, communication gateways, data logging, facility monitoring, device

management and Fieldbus network control.

The letters of UNO stands for the three key features of Advantech UNO products.

Universal

- Open hardware architecture: supports most popular operating systems, such as Windows and Linux.
- Standard communication interface: Support RS-232/422/485 serial ports, Ethernet ports, USB, PC card.
- Extension capability: Provides PCI and/or PC/104 slots.
- Computing capability: Pentium to Pentium III computing power.

Network

- Ethernet, Wireless LAN, modem, IrDA networking options.

Control

- Support complete ADAM I/O and controller series from the ADAM-4000, ADAM-5000, ADAM-6000 and Modbus devices over RS-485 and Ethernet.

Features

Industrial proven design for harsh environments

The UNO series is highly rugged and robust, and suitable for use in any critical and harsh environments. UNO-3062's special design eliminates the weakness of traditional PCs, by eliminating fans. UNO has a strong mechanical design, and also has excellent anti-shock and anti-vibration properties. It can endure high-operating temperatures and almost anything an industrial environment can demand.

Introduction

Open-system architecture designed for Automation

Advantech UNO has an open-system architecture, which provides the most popular interfaces such as RS-232/422/485 serial communication ports, Ethernet ports, USB ports, CompactFlash, PC Card extension slots and VGA for display panels. With rich interface support, the UNO can connect to diverse devices and equipment for automation control.

Ready Embedded OS for Rapid Application Development

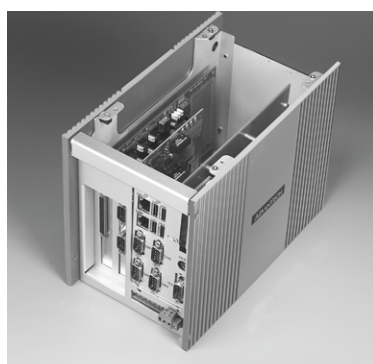
UNO provides an embedded operating system offering a pre-configured image with optimized on-board device drivers. UNO supports the three most popular embedded operating systems; Microsoft Windows® CE .NET, Microsoft Windows® XP Embedded and Embedded Linux. The embedded operating systems fulfill the toughest requirements of complete functionality and high reliability. UNO quickly proves itself to be an application ready platform that will save time and energy in launching your projects.

Flexible Networking Options

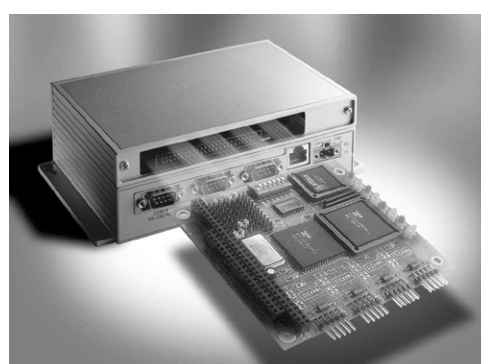
UNO supports diverse ways to connect to a network, including Ethernet, Wireless LAN and Modem. UNO's built-in Ethernet port provides high-speed networking capability up to 100 Mbps. The PCMCIA extension with PCMCIA wireless LAN module offers you a mobile and scalable network without incurring additional cabling costs. And through UNO serial ports, industrial modems offer the most popular and easiest networking way thru PSTN.

PCI & PC/104 for flexible expansion

To fulfill your diverse needs, UNO provides PCI or PC/104 interfaces for your flexible expansion, so that you can plug-in all PCI or PC/104 form-factor cards. Advantech is recognized for its PC-based solutions, and can provide you with complete data acquisition and I/O control, motion control, GPIB, industrial communication and Fieldbus cards.



UNO-3062 with PCI Card



UNO-2160 with PC/104 Module

Flexible Installation Options

Unlike traditional PCs, UNO is designed to be installed anywhere. Compact and with clever mounting brackets, you'll be able to place UNO closer to your application.

UNO provides three industrial mounting options:

- 1) DIN-rail mounting (UNO-20XX)
- 2) Panel mounting
- 3) Wall mounting

Moreover, since all connections of UNO-3062 are located on the front panel, wiring and connections are quick to configure and maintain.



DIN-rail Mounting by Industrial DIN-rails



Panel/Wall Mounting for Flat Surfaces



Wall Mount (I)



Wall Mount (II)



Cabinet

1

Software

2

IPPC

3

TPC

4

FPM

5

ATM & AWS

6

DA&C

7

cPCI

8

ADAM-3000

9

Motion Control

10

ICOM

11

eConnectivity

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UNO

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ADAM-4000

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ADAM-5000

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ADAM-6000

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ADAM-8000

17

BAS

Win CE/XP Embedded Introduction

UNO Embedded OS Introduction

Advantech's UNO series provides an embedded operating system solution offering a pre-configured image with optimized onboard device drivers. UNO supports the three most popular operating systems: Windows® CE .NET, Windows XP Embedded and Embedded Linux. These operating system fulfill the toughest requirements of complete functionality, high reliability, minimized cost and low power consumption. UNO quickly proves itself to be a ready -or-application platform that saves you time and energy in launching your projects.

Hard Real-Time Windows CE .NET Meets Time-critical Demands

Windows CE .NET, published by Microsoft, is a robust, compact and highly efficient "hard" real-time operating system that quickly satisfies any customized high-performance embedded applications. It also provides enterprise-scale protection with demanding network security mechanisms, including Kerberos™ Security Protocol, Extensible Authentication Protocol, Secure Sockets Layer (SSL) and so on. Furthermore, Windows CE .NET supports the latest stack network standard, IPv6 that provides more IP addresses than the previous standard, IPv4. Windows CE .NET possesses robust core OS services and complete networking services to offer users an ideal embedded development platform.

Windows XP Embedded Provides Applications Compatible to Windows XP

Windows XP Embedded is a componentized version of Windows XP Professional, which is based on Windows XP Professional binaries and features the latest multimedia (Windows Media Player™ 8.0, DirectX® 8.0), browsing (Internet Explorer 6.0) technologies, security, and rich networking functionalities. You can seamlessly integrate specific applications into Windows XP Embedded with minimum effort.

Open Source Embedded Linux Offers A Cost-effective Alternative

Embedded Linux is a famous, UNIX compatible, open source embedded operating system which ports the Linux kernel to a specific CPU and board installed into the embedded device. Embedded Linux is a fully functional OS that features the flexibility of adding or removing modules in kernel at runtime. The other major advantage of Linux is its open source that allows users to save any license or royalty fees. Hence, Embedded Linux is a cost-effective alternative.

UNO not only provides an embedded OS platform but also has full driver support, including Windows® CE .NET, 2000/XP and Linux. Therefore, UNO is an application-ready platform that significantly shortens your research development cycle, expediting time to market.

UNO Windows CE .NET Software Support

Applications and Services Development	<p>The combined Web and application services of Windows CE .NET provide unsurpassed opportunities to build smart, mobile, and connected devices that have access to Windows operating systems, applications, databases, and the Internet.</p> <ul style="list-style-type: none">▪ Active Template Library (ATL)▪ C Libraries and Runtimes▪ Component Services: Component Object Model (COM) and Distributed Component Object Model (DCOM)▪ Device Management▪ Lightweight Directory Access Protocol (LDAP) Client▪ Microsoft Message Queue (MSMQ)▪ Microsoft Foundation Classes (MFC)▪ Object Exchange Protocol (OBEX)▪ Simple Object Access Protocol (SOAP) Toolkit▪ Standard SDK for Windows CE .NET▪ Microsoft .NET Compact Framework▪ XML
Applications: End User	<p>Ready-to-use applications perform common tasks based on underlying services, providing rapid application deployment within specific classes of devices, such as mobile handheld devices, data collection devices, and thin clients.</p> <ul style="list-style-type: none">▪ Microsoft ActiveSync®▪ CAB File Installer/Uninstaller▪ Help▪ Remote Desktop Connection
Core Operating System Services	<p>Core operating system services contain data on the Windows CE kernel and other features common to all Windows CE platforms. The core operating system services enable low-level tasks from process threads to memory management, and provide some file system functionality.</p> <ul style="list-style-type: none">▪ USB Host Support▪ Kernel Features▪ Real-Time Support▪ Fonts
Communication Services and Networking	<p>Windows CE .NET provides networking and communications capabilities that enable devices to connect and communicate securely with other devices and people over both wireless and wired networks.</p> <ul style="list-style-type: none">▪ Networking Features: Protected Extensible Authentication Protocol (PEAP), firewall, Network Driver Interface Specification (NDIS) 5.1, utilities, Universal Plug & Play (UPnP), TCP/IP, TCP/IPv6

	<ul style="list-style-type: none">▪ Local Area Network (LAN): 802.1x, 802.3, 802.5, Wireless Protected Access▪ Wide Area Network (WAN): dial-up networking, point-to-point, telephony API▪ Servers: File Transfer Protocol (FTP), telnet, Web server , Remote Access Service (RAS)
File Systems and Data Stores	<p>File systems and data stores enable devices to compress, store, or read data from RAM or ROM and have varying responsibilities from filtering to partitioning.</p> <ul style="list-style-type: none">▪ File System▪ Registry Storage
Multimedia and Browsing Services	<p>The Internet connectivity modules enable you to build sophisticated Internet access devices. Off-the-shelf protocols are available at various levels to provide multiple Internet access options. Windows CE .NET includes the high performance Microsoft DirectX® API and Microsoft Windows Media® technologies found on desktop computers, enabling high-performance audio, video, and streaming media services on Windows CE .NET-based devices.</p> <ul style="list-style-type: none">▪ Internet Explorer 5.5 for Windows CE▪ Scripting (Microsoft Jscript® 5.5, VBScript 5.5)
Security	<p>Security services supported in Windows CE .NET 4.2 help users to connect securely over networks and between specified devices, enabling better protection of personal content and data.</p> <p>Authentication Services</p> <ul style="list-style-type: none">▪ Kerberos▪ Secure Socket Layer (SSL) <p>Cryptography Services</p> <ul style="list-style-type: none">▪ CryptoAPI 1.0 with High Encryption Provider
Shell and User Interface	<p>Ready-to-use, built-in user interfaces (UI) and UI services can save you considerable time when you want to create the sophisticated, easy-to-use, graphical devices that users demand.</p> <ul style="list-style-type: none">▪ Graphics, Windowing, and Events▪ Shell▪ User Interface (customizable UI, software input panel)

UNO-2000/3000 Series Selection Guide

Model Name	UNO-2050	UNO-2052	UNO-2053	UNO-2059	UNO-2160	UNO-3062	UNO-3062L
CPU	GX1-300 MHz				Celeron 400	Celeron 400/650	Celeron 400/650
On-Board RAM	64/128 MB SDRAM				256/512 MB SDRAM		
Battery-Backup RAM	-				512 KB		
VGA/Mouse/Keyboard	Yes						
Serial Ports	2 x RS-232 2 x Isolated RS-232/422/485	2 x CAN 1 x RS-232	2 x RS-232	2 x RS-232 2 x RS-232/422/ 485	2 x RS-232 2 x RS-232/422/485		
10/100Base-T Ethernet Ports	Two	One	Two	One	Two		
USB Ports	-	One	Two	Two	Two	Four	Four
PC Card Slots	-	-	One	One	One	One	--
Printer Ports	-	-	-	-	One	-	-
PC/104 Extensions	-	-	-	-	Two	-	-
PCI Extensions	-	-	-	-	-	Two	
On-Board I/O	8-ch isolated DI 8-ch isolated DO	4-ch isolated DI 4-ch isolated DO 2-ch isolated AI	-	-	-	4-ch isolated DI 4-ch isolated DO	4-ch isolated DI 4-ch isolated DO
Watchdog Timer	Yes						
CompactFlash™ Slots	One internal					One internal One external	One internal
2.5'' HDD Extension	Yes						
Operating Systems	Windows® XP Embedded Windows® CE .NET Windows 2000/XP/Linux				Windows® XP Embedded Windows® CE .NET/2000/XP Linux	Windows® XP Embedded Windows® 2000/XP Linux	
Programming Runtime Library	Yes						
Software Development Kit	Yes						
Activesync	Yes						
Web server/ E-mail service	Yes						
Modem dial-in(RAS)/dial-up function	Yes						
Mounting	DIN-Rail/Panel/Wall				Wall		
Anti-Vibration	2G w/CF, 1G w/HDD @ IEC 68 section 2-6, sine, 12~300 Hz, 1 Oct./min, 1hr/axis.				2G w/CF, 0.5G w/HDD @ IEC 68 section 2-64, sine, 5~500 Hz, 1 Oct./min, 1hr/axis.		
Anti-Shock	20 G w/ CF @ DIN IEC 68 section 2-27, half sine, 11ms 50 G W/ CF @ Wall/Panel IEC 68 section 2-27, half sine, 11ms						
IP40 Certificate	Yes						
Power Input Range	9~36 V _{DC}	9~36 V _{DC}	10~30 V _{DC}	9~36 V _{DC}	9~36 V _{DC}	16~36 V _{DC}	
Operating Temperature	-10~55° C @ 5~85% relative humidity				-10~50° C @ 5~85% relative humidity		
Related Humidity	95% @ 40° C						
Power Consumption	0.6 A max under +24 V power input or 1.2 A max under +12 V power input				22W (Typical)	24 W (Typical)	
Power Requirement	1 A typical under +24 V power input or 1.5 A typical under +12 V power input				Min-48 W, +24 V @ 2 A power input		
Dimensions (W x L x H)	188.8 x 106.5 x 35.5 mm (7.5" x 4.2" x 1.4")				220 x 160 x 50 mm (8.6" x 6.2" x 1.9")	140 x 177 x 237 mm (5.5" x 7.0" x 9.3")	
Weight	0.8 kg				1.6 kg	3 kg	

Ps. Microsoft® eMbedded Visual C++ 4.0 SP1 and Visual Studio .NET Development Tool can be download from Microsoft website (for MSDN members)

*: Linux supports Kernel version 2.4 ported based on Red Hat development kit.

Available date, please check with Advantech.

1
Software

2
IPPC

3
TPC

4
FPM

5
ATM & AWS

6
DA&C

7
cPCI

8
ADAM-3000

9
Motion Control

10
ICOM

11
eConnectivity

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UNO

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ADAM-4000

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ADAM-5000

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ADAM-6000

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ADAM-8000

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BAS

UNO-3062

Front Access Fanless PC with Two PCI Extensions

NEW



CE FCC

Features

- On-board Celeron® 400/650 MHz, 256/512 MB SDRAM
- Provides 512 KB battery-backup RAM
- Two RS-232 and two RS-232/422/485 ports with RS-485 automatic flow control
- Two 10/100Base-T RJ-45 ports and four USB ports
- Two free PCI-bus slots extension for versatile applications
- Industrial proven design; anti-shock up to 50G, anti-vibration up to 2G
- 4-ch isolated DI, 4-ch isolated DO with timer, counter and interrupt handling
- Windows® XP embedded ready solution
- Windows® 2000/XP driver ready
- All connectors at front side of housing
- Flexible mounting plates on three sides (optional)
- Support dual power inputs

Introduction

Advantech's UNO-3062 is a Pentium® III grade, industrial fanless PC which comes with two PCI extensions. The UNO-3062 features a rugged and field-proven design offering dual power inputs and battery backup SRAM. Different from general industrial PCs, the UNO-3062 is more compact and reliable. The UNO-3062 is an open platform which can fulfill any demanding requirement from the industrial field, and it is an ideal solution for industrial automation and control.

Front Access Connections from Control Cabinet

Unlike traditional PC design, all connections of the UNO-3062 are located on the front panel. This makes wiring and maintenance significantly simpler. Moreover, the UNO-3062 is also very compact at only 140W x 177H x 237D mm, which means installation in a control cabinet is easy.

Embedded OS Ready for Rapid Application Development

UNO-3062 provides an embedded operating system with a pre-configured image that has optimized on-board device drivers. UNO-3062 supports Microsoft® Windows® XP Embedded. It fulfills the toughest requirements for complete functionality and high reliability.

Specifications

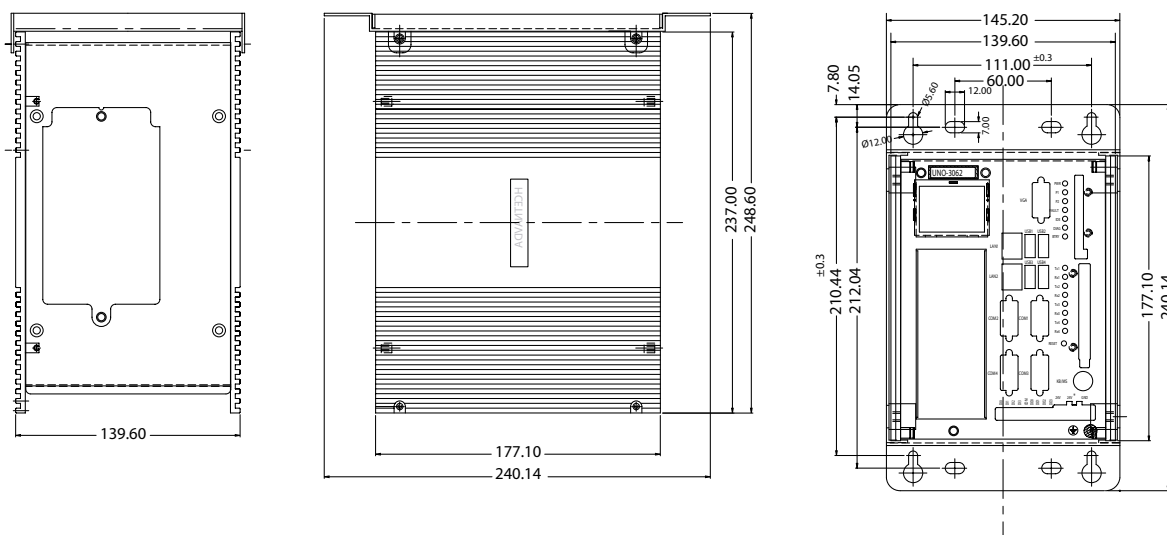
- CPU** Celeron®-400/650 MHz Ultra low-voltage version
- Memory** 256/512 MB SDRAM on board (Default: 256)
- Battery-backup RAM** 512 KB
- BIOS** Award 256 KB flash memory
- VGA/Keyboard/Mouse** DB-15 VGA Connector, PS/2 keyboard & mouse
- Clock** Battery-backup RTC for time and date
- Serial Port** 2 x RS-232 and 2 x RS-232/422/485 with DB-9 connector
- Automatic RS-485 data flow control**
- Speed** RS-232: 50 bps ~ 115.2 kbps
RS-422/485: 50 bps ~ 921.6 kbps
- LAN** Two 10/100Base-T RJ-45 Ports
- USB Interface** Four USB ports, USB UHCI, Rev. 1.1 compliant
- SSD** One internal type I/II CompactFlash® slot
One external type I/II CompactFlash® slot (UNO-3062 only)
- LEDs** Power, Power input 1, Power input 2, Power fault, IDE, Diagnosis, Alarm for battery backup
- PC Card** One PC Card Slot (UNO-3062 only)
Supports CardBus (Card-32) Card and 16-bit (PCMCIA 2.1/JEIDA4.2) Card
Supports +5V, +3.3V and +12V@120mA working power
- PCI-bus Slots** Two PCI-bus slots, a total of:
12 V @ 2.5 A
-12 V @ 0.8 A
+5 V @ 4 A
+3.3 V @ 3 A
- 4-ch Isolated Digital Input (DI0-DI3)**
 - 2,000 V_{DC} isolation
 - 2,000 V_{DC} ESD protection
 - 70 V_{DC} over-voltage protection
 - 0 ~ 50 V_{DC} input range and 10 kHz speed
 - Interrupt handling, speed: 10 kHz
- 4-ch Isolated Digital Output (DO0-DO3)**
 - 2,000 V_{DC} isolation and 200 mA max/channel sink current
 - Keep output status after system hot reset
 - 5 ~ 40 V_{DC} output range and 10 kHz speed
- Two 16-bit counters/timers**
 - Counter source: DI1 & DI3, Pulse output: DO2 & DO3
 - Can be cascaded as one 32-bit counter/timer
 - Down counting, preset counting value
 - Timer time base: 100 kHz, 10 kHz, 1 kHz, 100 Hz
- HDD** HDD extension kit is offered for installation of one standard 2.5" HDD (Option)
- Anti-Shock** 20 G @ Wall mounting, IEC 68 section 2-27, half sine, 11 ms w/HDD
50 G @ Wall mounting, IEC 68 section 2-27, half sine, 11 ms w/CF
- Anti-Vibration** 2 Grms w/ CF @ IEC 68 section 2-64, random, 5 ~ 500 Hz, 1 Oct./min, 1hr/axis.
0.5 Grms w/ HDD @ IEC 68 section 2-64, random, 5 ~ 500 Hz, 1 Oct./min, 1hr/axis
- Power Supply** 16 ~ 36 V_{DC}
- Operating Temperature** -10~50° C (14 ~ 122° F) @ 5~85% relative humidity
- Relative Humidity** 95% @ 40° C
- Power Consumption** UNO-3062 with Celeron® 650 MHz: 24 W (Typical)
UNO-3062 with Celeron® 400 MHz: 22 W (Typical)
- Power Requirement** Min-48 W, +24 V @ 2 A
- Chassis Size (WxHxD)** 140 x 177 x 237 mm (5.5" x 7.0" x 9.3")
- Mounting** Wall/panel mounting
- Weight** 3 kg

Software

- OS** Windows® XP Embedded, Windows® 2000/XP, Linux®

UNO-3062

Dimensions



Ordering Information

- **UNO-3062-JEA0** Celeron® 400 MHz, 256 MB SDRAM Front Access Fanless PC
- **UNO-3062-KEA0** Celeron® 400 MHz, 512 MB SDRAM Front Access Fanless PC
- **UNO-3062-LEA0** Celeron® 650 MHz, 256 MB SDRAM Front Access Fanless PC
- **UNO-3062-MEA0** Celeron® 650 MHz, 512 MB SDRAM Front Access Fanless PC
- **UNO-3062XP-JHA0** Celeron® 400MHz, 256MB SDRAM, Front Access Fanless PC, with 512MB industrial-grade CF and Windows® XP Embedded
- **UNO-3062XP-KHA0** Celeron® 400MHz, 512MB SDRAM, Front Access Fanless PC, with 512MB industrial-grade CF and Windows® XP Embedded
- **UNO-3062XP-LHA0** Celeron® 650MHz, 256MB SDRAM, Front Access Fanless PC, with 512MB industrial-grade CF and Windows® XP Embedded
- **UNO-3062XP-MHA0** Celeron® 650MHz, 512MB SDRAM, Front Access Fanless PC, with 512MB industrial-grade CF and Windows® XP Embedded



Front Access Connections from Control Cabinet

Unlike traditional PC design, all connections of the UNO-3062 are located on the front panel. This makes wiring and maintenance significantly simpler. Moreover, the UNO-3062 is also very compact at only 140Wx 177H x 237D mm, which means installation in a control cabinet is easy.

- 1 Software
- 2 IPCC
- 3 TPC
- 4 FPM
- 5 ATM & AWS
- 6 DA&C
- 7 cPCI
- 8 ADAM-3000
- 9 Motion Control
- 10 ICOM
- 11 eConnectivity
- 12 UNO
- 13 ADAM-4000
- 14 ADAM-5000
- 15 ADAM-6000
- 16 ADAM-8000
- 17 BAS

UNO-2160

Celeron® 400 Universal Network Controller with PC/104 Extension



CE FCC UK

Features

- Onboard Celeron® 400 MHz, 256/512 MB SDRAM
- Provides 512 KB of battery-backup RAM
- Supports Lm sensor which can retrieve CPU and board temperature for monitoring purposes
- Two RS-232 and two RS-232/422/485 ports with automatic flow control.
- Two 10/100Base-T RJ-45 ports.
- Two USB and one type I/II PC Card.
- Two optional PC/104 extensions.
- Supports Modbus/RTU and Modbus/TCP devices.
- Supports ADAM series for remote data acquisition and control
- Windows® CE .NET and Windows® XP Embedded ready solution

Introduction

UNO-2160 is a high-performance Pentium III grade controller that supports PC/104 extensions, serial communication ports and several other networking interfaces. UNO-2160 supports Windows® XP Embedded OS and Windows® CE.NET, which offers a pre-configured image with optimized onboard device drivers. Windows® XP Embedded delivers the power of the Windows® operating system in componentized form. You can seamlessly integrate your applications into Windows® XP Embedded. Speed up your system development with an application ready platform that can provide a rich networking interface to fulfill diverse requirements.

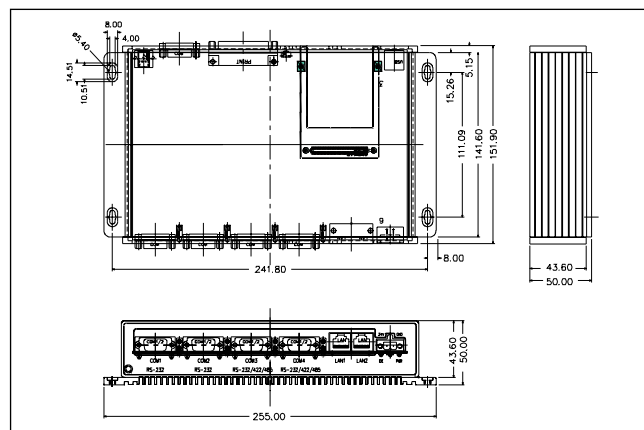
Specifications

- **CPU** Celeron® 400 MHz Ultra low-voltage version, 256/512 MB SDRAM onboard (Default: 256 MB SDRAM).
- **Battery-backup RAM** 512 KB Battery-backup RAM
- **VGA/Keyboard/Mouse** DB-15 VGA Connector, PS/2 keyboard & mouse
- **Serial Ports** 2 x RS-232 and 2 x RS-232/422/485 with DB-9 connectors
Automatic RS-485 data flow control
- **Serial Port Speed** RS-232: 50 ~ 115.2 kbps
RS-422/485: 50 ~ 921.6 kbps
- **LAN** Two 10/100 Base-T RJ-45 Ports
- **USB Interface** Two USB ports, USB UHCI, Rev. 1.1 compliant
- **Printer Port** One printer port
- **PC Card** One PC Card slot
Supports CardBus (Card-32) Card and 16-bit (PCMCIA 2.1/JEIDA4.2) Card
Supports +5 V, +3.3 V and +12 V @ 120 mA working power
- **SSD** One internal type I/II CompactFlash® slot
- **LEDs** Power, IDE, Alarm for RAM Backup Battery
- **PC/104** Two PC/104 Extensions. (Option). Support +5V working power
- **HDD** Built in HDD bracket for installation of one standard 2.5" HDD
- **Anti-Shock** 50 G @ Wall mounting, IEC 68 2-27, half sine, 11 ms w/CompactFlash® SSD
20 G @ Wall mounting, IEC 68 2-27, half sine, 11 ms w/HDD
- **Anti-Vibration** 2 Grms w/CF @ IEC 68 section 2-64, random, 5 ~ 500 Hz, 1 Oct./min, 1 hr/axis, Random vibration
1 Grms w/ HDD @ IEC 68 section 2-64, random, 5 ~ 500 Hz, 1 Oct./min, 1 hr/axis, Random vibration
- **Power Supply** 9 ~ 36 V_{DC}
- **Power Consumption** 22W (Typical)
- **Power Requirement** Min 48W, +24V@2A
- **Operating Temperature** -10~50° C (14~122° F) @ 5~85% related humidity.
- **Relative Humidity** 95% @ 40° C
- **Weight** 1.6 kg
- **Chassis Size (WxDxH)** 255 x 152 x 50 mm (10" x 6.0" x 2.0")
- **Software Options** Windows® XP Embedded, Windows® NT/2000/XP, Windows® CE .NET V4.2

Ordering Information

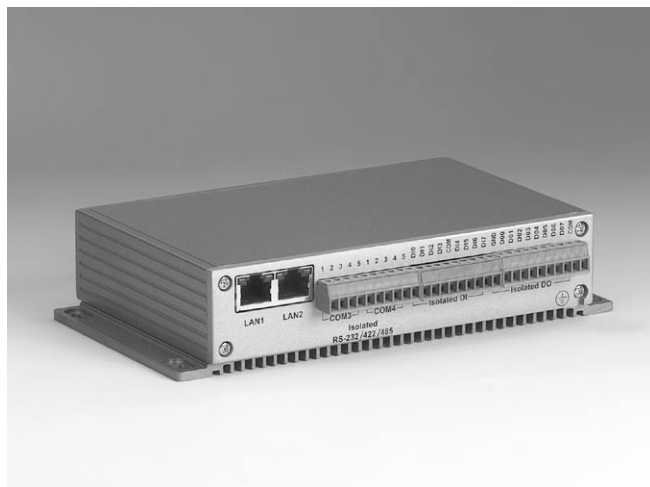
- **UNO-2160-JDA0** Celeron® 400MHz, 256MB SDRAM Universal Network Controller with PC/104 extension
- **UNO-2160-KDA0** Celeron® 400MHz, 512MB SDRAM Universal Network Controller with PC/104 extension
- **UNO-PCM21-A** UNO-2100 series 2 x PC/104 extension kit
- **UNO-2160CE-JEA1** Celeron® 400MHz, 256MB SDRAM Universal Network Controller with PC/104 extension, 64MB industrial-grade CF and Windows® CE.NET 4.2
- **UNO-2160CE-KEA1** Celeron® 400MHz, 512MB SDRAM Universal Network Controller with PC/104 extension, 64MB industrial-grade CF and Windows® CE.NET 4.2
- **UNO-2160XP-JHA1** Celeron® 400MHz, 256MB SDRAM Universal Network Controller with PC/104 extension, 512MB industrial-grade CF and Windows® XP Embedded
- **UNO-2160XP-KHA1** Celeron® 400MHz, 512MB SDRAM Universal Network Controller with PC/104 extension, 512MB industrial-grade CF and Windows® XP Embedded

Dimensions



UNO-2050

**GX1-300 UNO with 2xLAN, 2xRS-232
2xIsolated RS-232/422/485, 16xIsolated DI/O**



CE FCC

Introduction

The Advantech UNO-2050 is a 586-grade platform with dual LAN and 16-channel isolated digital I/O and timer/counter. In addition, it also provides two RS-232 and two isolated RS-232/422/485 communication ports with RS-485 automatic flow control functionality. Therefore, the UNO-2050 is an ideal solution for embedded controllers.

UNO-2050 comes with a built-in Windows® CE solution offering a pre-configured image with optimized onboard device drivers. Microsoft® Windows® CE is a compact, highly efficient, real-time operating system designed for embedded systems without mechanical HDD limitations. To expand storage capability, the UNO-2050 allows the addition of an external 2.5" HDD using Advantech's UNO HDD extension kit. It can be used for large data backup requirements and popular OS installations such as Microsoft® Windows® and Linux® OS. Significant anti-vibration (1G w/ HDD) is maintained even with the mechanical HDD inside. UNO-2050 is the perfect embedded application ready platform that can shorten development time and offer a rich networking interface to fulfill diverse application requirements.

Specifications

- **CPU** NS Geode™ GX1-300 MHz, 64/128 MB SDRAM on board
- **VGA/Keyboard/Mouse** DB-15 VGA Connector, PS/2 keyboard & mouse
- **Serial Ports** 2 × standard RS-232 (COM1/COM2)
2 × isolated RS-232/422/485 (COM3/COM4)
Automatic RS-485 data flow control
RS-232/422/485 (COM3/COM4) with 2000 V_{DC} surge protection & 2000 V_{DC} isolation
Speed: RS-232: 50 ~ 230.4 kbps;
RS-422/485: 50 ~ 921.6 kbps
- **8-ch Isolated Digital Input** 2,000 V_{DC} isolation, 2,000 V_{DC} ESD protection, 70 V_{DC} over-voltage protection
0 ~ 50 V_{DC} input range and 10 kHz speed; Interrupt handling.
- **8-ch Isolated Digital Output** 2,000 V_{DC} isolation and 200 mA max / channel sink current
Keep output status after system hot reset
5 ~ 40 V_{DC} output range and 10 kHz speed
- **Two 16-bit Counter Timer** Counter source: DI6 & DI7, Pulse output: DO6 & DO7
Can be cascaded as one 32-bit counter/timer
Down counting, preset counting value, interrupt handling
Timer time base: 100 kHz, 10 kHz, 1 kHz, 100 Hz
- **LAN** Dual 10/100Base-T with RJ-45 Port
- **SSD** One internal type I/II CompactFlash® slot
- **HDD** Offer HDD ext.kit for inst. of one standard 2.5" HDD.
- **Watchdog Timer** Programmable
- **Anti-Shock** 20 G @ DIN IEC 68 section 2-27, half sine, 11 ms 50 G @ Wall/Panel IEC 68 section 2-27, half sine, 11 ms.
- **Anti-Vibration** 2 G w/ CompactFlash® @ IEC 68 section 2-6, sine, 5 ~ 500 Hz, 1 Oct./min, 1 hr/axis.
1 G w/ HDD @ IEC 68 section 2-6, sine, 12 ~ 300 Hz, 1 Oct./min, 1 hr/axis.

Features

- On-board GX1-300 MHz, 64/128 MB SDRAM
- Two RS-232 and two-isolated RS-232/422/485 with automatic flow control
- Two 10/100 Base-T RJ-45 port.
- Isolated 8-channel DI and 8-channel DO with counter and timer.
- One programmable diagnostic LED and buzzer.
- Supports Modbus/RTU and Modbus/TCP devices.
- Supports ADAM series for remote data acquisition and control
- Windows® CE .NET ready solution.

- **LED** Power LED, IDE LED and one programmable diagnostic LED and buzzer.
- **Power Supply** 9 ~ 36 V_{DC}
- **Operating Temperature** -10 ~ 55° (14 ~ 131° F) @ 5 ~ 85% relative humidity.
- **Related Humidity** 95% @ 40° C.
- **Power Consumption** 0.6 A max @ +24 V input or 1.2 A max @ +12 V input
- **Power Requirement** 1 A typical @ +24 V input or 1.5 A typical @ +12 V input
- **Chassis Size (WxDxH)** 188.8 x 106.5 x 35.5 mm (7.5" x 4.2" x 1.4")
- **Weight** 0.8 kg

Driver Support

- **Windows® CE** UNO configuration utility. COM port Driver, Digital input / digital output driver. Programmable LED and buzzer Driver. Watchdog timer Driver.
- **Linux®** Digital input / digital output driver. COM port driver. Programmable LED and buzzer Driver. Watchdog timer Driver.
- **Windows® 2000/XP** COM port driver, Digital input / digital output driver. Programmable LED and buzzer Driver. Watchdog timer Driver.

Ordering Information

- **UNO-2050-GDA0** GX1-300 UNO with 64 MB SDRAM, 2 x LAN, 2 x RS-232, 2 x isolated RS-232/422/485, 16 x isolated DI/O
- **UNO-2050-HDA0** GX1-300 UNO with 128 MB SDRAM, 2 x LAN, 2 x RS-232, 2 x isolated RS-232/422/485, 16 x isolated DI/O
- **UNO-2050CE-GDA2** GX1-300 UNO with 64MB SDRAM, 2xLAN, 2xRS-232, 2xIsolated RS-232/422/485, 16xIsolated DI/O and 32MB CF with Windows® CE.NET 4.2 OS
- **UNO-HD20-A** UNO-2000 HDD extension kit

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Software

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IPPC

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TPC

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FPM

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ATM & AWS

6
DA&C

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cPCI

8
ADAM-3000

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Motion Control

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ICOM

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eConnectivity

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UNO

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ADAM-4000

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ADAM-5000

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ADAM-6000

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ADAM-8000

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BAS

UNO-2051

GX1-300 UNO with 64 MB SDRAM, 2 x RS-232, 2 x RS-232/422/485, LAN, USB, 8-ch isolated DI/O and 4-ch isolated AI

NEW



Features

- On-board GX1-300 MHz, 64/128 MB SDRAM
- Two RS-232 and two isolated RS-232/422/485 with automatic data flow control
- One 10/100Base-T RJ-45 port and USB 1.0 port
- 4-ch isolated DI and 4-ch isolated DO with counter and timer.
- 4-ch isolated AI
- One programmable diagnostic LED and buzzer
- Supports Modbus/RTU and Modbus/TCP devices
- Supports ADAM series for remote data acquisition and control
- Windows® CE .NET ready solution

Introduction

The Advantech UNO-2051 is a 586-grade industrial fanless platform with dual RS-232, dual RS-232/422/485, 8-channel isolated DI and 4-channel isolated AI. Moreover, it also provides 10/100Base-T RJ-45 port and USB interface. With rich on-board I/O interfaces, UNO-2051 can connect to field sensors and devices easy and quickly. Therefore, UNO-2051 is an ideal solution for environmental monitoring applications.

UNO-2051 comes with a built-in Windows® CE .NET solution offering a pre-configured image with optimized on-board device drivers. Microsoft® Windows® CE is a compact, highly efficient, hard real-time operating system designed for embedded system without mechanical HDD limitations. To expand storage capability, UNO-2051 also allows the addition of an external 2.5" HDD using Advantech's UNO-HDD extension kit. It can be used for large data backup requirements and popular OS installations such as Microsoft® Windows® 2000/XP and Linux OS. Significant anti-vibration (1G w/HDD) is maintained even with the mechanical HDD inside. UNO-2051 is the perfect embedded application ready platform that can shorten development time and offer a rich I/O interface to fulfill your needs.

Specifications

- CPU** NS Geode™ GX1-300 MHz, 64/128 MB SDRAM on board
- VGA/Keyboard/Mouse** DB-15 VGA connector, PS/2 keyboard & mouse
- Serial Ports** 2 x standard RS-232 (COM1/COM2)
2 x RS-232/RS-422/485 (COM3/COM4)
Automatic RS-485 data flow control
RS-232/422/485 (COM3/COM4) 2000 V_{DC} surge protection & 2000 V_{DC} isolation
Speed: RS-232: 50 ~ 115.2 kbps
RS-422/485: 50 ~ 921.6 kbps
- 4-ch Isolated Digital Input** 24 V Wet Contact
- 4-ch Isolated Digital Output** 2000 V_{DC} isolation and 1 A max/channel sink current
Keep output status after system hot reset
5 ~ 40 V_{DC} output range and 10 kHz speed
- 4-ch Isolated Analog Input** Effective Resolution: 12-bit
Input Type: mV, V
Input Range: ±625 mV, ±1.25 V, ±2.5 V, ±5 V, ±10 V
Isolation Voltage: 3000 V_{DC}
Sampling Rate: 1 K samples/sec. (per channel)
Input Impedance: 20 MΩ
Accuracy: ±1% or better
- USB** One USB port, USB OHCI, Rev. 1.0 compliant
- LAN** One 10/100Base-T RJ-45 Port
- SSD** One internal Type I/Type II CompactFlash® card slot
- Watchdog Timer** Programmable
- Anti-Shock** 50 G @ Wall mounting, IEC 68 2-27, half sine, 11 ms w/CompactFlash®
20 G @ Wall mounting, IEC 68 2-27, half sine, 11 ms, w/HDD

- Anti-Vibration** 2 Grms w/CompactFlash® @ IEC 68 2-6,
5 ~ 500 Hz, 10 ct./min, 1hr/axis
1 Grms w/HDD @ IEC 68 2-6, 12~300 Hz, 10ct./min,
1 hr/axis.
- LED** Power LED, IDE LED and one programmable diagnostic LED and buzzer
- Power Supply** 9 ~ 36 V_{DC}
- Operating Temperature** -10 ~ 55° C (14 ~ 131° F) @ 5 ~ 85% related humidity
- Related Humidity** 95% @ 40° C
- H/W Dimension (W x D x H)** 188.8 x 106.5 x 35.5 mm

Driver Support

- Windows® CE** UNO configuration utility, COM port driver, digital input/output driver, analog input driver, programmable LED and buzzer driver, watchdog timer driver
- Linux®** Digital input/output driver, COM port driver, programmable LED and buzzer driver, watchdog timer driver.
- Windows® 2000/XP** COM port driver, digital input/output driver, analog input driver, programmable LED and buzzer driver, watchdog timer driver

Ordering Information

- UNO-2051-GDA0** GX1-300 UNO with 64 MB SDRAM, 2 x RS-232, 2 x RS-232/422/485, LAN, USB, 8-ch DI/O and 4-ch AI
- UNO-2051-HDA0** GX1-300 UNO with 128 MB SDRAM, 2 x RS-232, 2 x RS-232/422/485, LAN, USB, 8-ch DI/O and 4-ch AI
- UNO-2051CE-GDA0** GX1-300 UNO with 64 MB SDRAM, 2 x RS-232, 2 x RS-232/422/485, LAN, USB, 8-ch DI/O and 4-ch AI and 32MB CompactFlash® with Windows® CE .NET 4.2 OS
- UNO-HD20-A** UNO-2000 HDD extension kit

UNO-2052

GX1-300 UNO with 2xCAN, LAN, USB, RS-232, 8xIsolated DI/O, 2xAI



CE FCC

Features

- On-board GX1-300 MHz, 64/128 MB SDRAM
- Provides two CAN interfaces
- Provides one 10/100Base-T RJ-45 port and one USB port
- Isolated 8-channel DI/O and 2-channel AI
- One programmable diagnostic LED and buzzer.
- Supports Modbus/RTU and Modbus/TCP devices.
- Supports ADAM series for remote data acquisition and control
- Windows® CE .NET ready solution.

Introduction

The Advantech UNO-2052 is a 586-grade platform that offers dual CAN 2.0B interfaces, digital I/O and thermocouple input functions. Combined with CAN 2.0B interfaces, the UNO-2052 is an ideal solution for automobile and logistics applications.

UNO-2052 comes with a built-in Microsoft® Windows® CE solution offering a pre-configured image with optimized on-board device drivers. Microsoft® Windows® CE is a compact, highly efficient, real-time operating system designed for embedded systems without mechanical HDD limitations.

To expand storage capability, the UNO-2052 allows the addition of an external 2.5" HDD using Advantech's UNO HDD extension kit. It can be used for large data backup requirements and popular OS installations such as Microsoft® Windows® and Linux® OS. Significant anti-vibration is maintained even with the mechanical HDD inside. (1 G)

UNO-2052 is the perfect embedded application-ready-platform to shorten development time and offer a rich networking interface to fulfill diverse application requirements.

Specifications

- CPU** NS Geode™ GX1-300 MHz, 64/128 MB SDRAM onboard
- VGA/Keyboard/Mouse** DB-15 VGA Connector, PS/2 keyboard & mouse
- Serial RS-232** 1 x standard RS-232
- Speed RS-232** 50 ~ 115.2 kbps
- USB Interface** One USB port, USB OpenHCI, Rev. 1.0 compliant
- LAN** One 10/100Base-T with RJ-45 Port
- CAN** Dual isolated CAN 2.0B interfaces.
CAN controller: SJA-1000
CAN transceiver: 82C250
- 4-ch Isolated Digital Input** 2,000 V_{DC} isolation, 2,000 V_{DC} ESD protection and 70 V_{DC} overvoltage protection
- 0 ~ 50 V_{DC} input range and 5 kHz speed
Digital input levels:
Dry contact: Logic level 0: Close to GND
Logic level 1: Open
Wet contact: Logic level 0: +2 V max
Logic level 1: +4 V ~ +50V
- 4-ch Isolated Digital Output** 2,000 V_{DC} isolation and 200 mA max / channel sink current
Keeps output status after system hot reset
5 ~ 30 V_{DC} output range and 5 kHz speed
Open collector to 30 V
30 mA max. load
Power dissipation: 300 mW
- 2-ch Thermocouple Input** Input type: Thermocouple: J/KTE type
Input range: ±15 mV, ±50 mV, ±100 mV, ±500 mV, ±1 V, ±2.5 V, ±20 mA
-T/C types and temperature ranges:
J 0 ~ 760° C, K 0 ~ 1370° C
T -100 ~ 400° C, E 0 ~ 1000° C
One internal type I/II CompactFlash® slot
Offer HDD ext. kit for inst. of one standard 2.5" HDD.
Programmable.
- SSD**
- HDD**
- Watchdog Timer**

- LED** Power LED, IDE LED, one programmable diagnostic LED and one buzzer.
- Power Supply** 9 ~ 36 V_{DC}
- Anti-Shock** 20 G @ DIN IEC 68 section 2-27, half sine, 11 ms 50 G @ Wall/Panel IEC 68 section 2-27, half sine, 11 ms.
- Anti-Vibration** 2 G w/ CF @ IEC 68 section 2-6, sine, 5 ~ 500 Hz, 1 Oct./min, 1 hr/axis.
1 G w/ HDD @ IEC 68 section 2-6, sine, 12 ~ 300 Hz, 1 Oct./min, 1 hr/axis.
- Operating Temperature** -10 ~ 55° (14 ~ 131° F) @ 5 ~ 85% relative humidity.
- Related Humidity** 95 % @ 40° C
- Power Consumption** 0.6 A max @ +24 V input or 1.2 A max @ +12 V input
- Power Requirement** 1 A typical @ +24 V input or 1.5 A typical @ +12 V input
- Chassis Size (WxDxH)** 188.8 x 106.5 x 35.5 mm (7.5" x 4.2" x 1.4")
- Weight** 0.8 kg

Driver Support

- Windows® CE** UNO configuration utility. DI/O & AI driver. CAN driver. Programmable LED and buzzer Driver. Watchdog timer Driver.
- Linux®** DI/O & AI driver. CAN driver. Programmable LED and buzzer Driver. Watchdog timer Driver.
- Windows® 2000/XP** DI/O & AI driver, CAN driver. Programmable LED and buzzer Driver. Watchdog timer Driver. Modbus/TCP, Modbus/RTU DLL Driver.

Ordering Information

- UNO-2052-GDA0** GX1-300 UNO with 64MB SDRAM, 2xCAN bus, LAN, USB, RS-232, 8xDI/O, 2xAI
- UNO-2052CE-GDA1** GX1-300 UNO with 64MB SDRAM, 2xCAN bus, LAN, USB, RS-232, 8xDI/O, 2xAI, and 32MB CompactFlash® with Windows® CE .NET 4.2
- UNO-2052-HDA0** GX1-300 UNO with 128MB SDRAM, 2xCAN bus, LAN, USB, RS-232, 8xDI/O, 2xAI
- UNO-HD20-A** UNO-2000 HDD extension kit

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UNO

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ADAM-4000

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ADAM-5000

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ADAM-6000

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ADAM-8000

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BAS

UNO-2053

**GX1-300 UNO with PC Card,
2xLAN, 2xUSB, 2xRS-232**



CE FCC

Features

- On-board GX1-300 MHz CPU, 64/128 MB SDRAM
- Two standard RS-232 and one DB-15 VGA connector.
- Two 10/100Base-T RJ-45 ports.
- Two USB and one type I/II PC card slots.
- Supports Modbus/RTU and Modbus/TCP devices.
- Supports ADAM series for remote data acquisition and control
- Supports Wireless LAN PCMCIA modules.
- Windows® CE .NET ready solution.

Introduction

The Advantech UNO-2053 is a 586-grade platform that offers dual LAN, dual USB and PC card interfaces to fulfill user's diverse communication needs. In addition, it also offers two RS-232 communication ports on board. Therefore, the UNO-2053 is an ideal solution for data gateway applications.

UNO-2053 comes with a Windows® CE OS offering a pre-configured image with optimized onboard device drivers. Microsoft® Windows® CE is a compact, highly efficient, real-time operating system designed for embedded systems without mechanical HDD limitations.

To expand storage capability, the UNO-2053 allows the addition of an external 2.5" HDD using Advantech's UNO HDD extension kit. It can be used for large data backup requirements and popular OS installations such as Microsoft® Windows® and Linux® OS. Significant anti-vibration is maintained even with the mechanical HDD inside. (1 G)

UNO-2053 is a perfect embedded application-ready platform that can shorten your development time and offer a rich networking interface to fulfill diverse requirements.

Specifications

- CPU** NS Geode™ GX1-300 MHz, 64/128 MB SDRAM on board
- VGA/Keyboard/Mouse** DB-15 VGA Connector, PS/2 keyboard & mouse
- Serial Port** 2 × standard RS-232
Speed: RS-232: 50 ~ 115.2 kbps
- USB Interface** Two USB ports, USB OpenHCI, Rev. 1.0 compliant
- LAN** Dual 10/100Base-T RJ-45 Ports
- PC Card** One PC Card slot
- Support CardBus (Card-32) Card and 16-bit (PCMCIA 2.1/JEIDA4.2) Card
- Support +5 V, +3.3 V and +12 V @ 120 mA working power
- SSD** One internal type I/II CompactFlash® card slot
- HDD** HDD extension kit is offered for installation of one standard 2.5" HDD.
- Watchdog Timer** Programmable.
- LEDs** One Power LED and one IDE LED.
- Power Supply** 10 ~ 30 V_{DC}
20 G @ DIN IEC 68 section 2-27, half sine, 11 ms
50 G @ Wall/Panel IEC 68 section 2-27, half sine, 11 ms.
- Anti-Shock**
- Anti-Vibration** 2 G w/ CF @ IEC 68 section 2-6, sine, 5 ~ 500 Hz, 1 Oct./min, 1 hr/axis.
1G w/ HDD @ IEC 68 section 2-6, sine, 12 ~ 300 Hz, 1 Oct./min, 1 hr/axis.
- Operating Temperature** -10 ~ 55° C (14 ~ 131° F) @ 5 ~ 85% related humidity.
- Related Humidity** 95 % @ 40°C.
- Power Consumption** 0.6 A max under +24 V power input or 1.2 A max under +12 V power input

- Power Requirement** 1 A @ +24 V power input
1.5 A @ +12 V power input
- Chassis Size (WxDxH)** 188.8 x 106.5 x 35.5 mm (7.5" × 4.2" × 1.4")
- Weight** 0.8 kg

Driver Support

- Windows® CE** UNO configuration utility, Watchdog timer Driver.
- Linux®** Watchdog timer Driver.
- Windows® 2000/XP** Watchdog timer Driver.

Ordering Information

- UNO-2053-GDA0** GX1-300 Universal Network Controller with 64 MB SDRAM, PC Card, 2 x LAN, 2 x USB, 2 x RS-232
- UNO-2053CE-GDA2** GX1-300 Universal Network Controller with 64 MB SDRAM, PC Card, 2 x LAN, 2 x USB, 2 x RS-232 and 32MB CF with Windows® CE .NET 4.2 OS
- UNO-2053-HDA0** GX1-300 Universal Network Controller with 128 MB SDRAM, PC Card, 2 x LAN, 2 x USB, 2 x RS-232
- UNO-HD20-A** UNO-2000 HDD extension kit

UNO-2058

GX1-300 Universal Network Controller with GPS/GPRS Communication



Features

- On-board GX1-300MHz, 64/128MB SDRAM
- Two RS-232/485 ports and one RS-232/422/485 ports
- RS-485 automatic flow control
- One 10/100Base-T RJ-45 port
- Supports GPS positioning
- Supports GSM/GPRS communication
- Isolated 4-channel DI and 4-channel DO
- One programmable diagnostic LED and buzzer
- Supports Modbus/RTU and Modbus/TCP devices
- Supports ADAM series for remote data acquisition and control
- Windows® CE .NET ready solution

Introduction

UNO-2058 is a 586-grade industrial-grade fanless platform that provides two RS-232, one RS-232/422/485, one LAN, and two USB ports. Moreover, UNO-2058 provides GPS/GPRS two-way wireless communication for usage in mobile applications. The rugged industrial design has excellent anti-shock (50 G) and anti-vibration (2 G) properties, as well as a special aluminium heat sink design that makes it operate reliably in temperatures up to 55.°C without a fan. UNO-2058 is also IP30 certified.

UNO-2058 comes with a built-in Windows® CE .NET solution offering a pre-configured image with optimized on-board device drivers. Microsoft® Windows® CE .NET is a compact, highly efficient, real-time operating system designed for embedded systems without mechanical HDD limitations.

Specifications

- CPU** NS Geode™ GX1-300MHz with 64MB SDRAM on board
- VGA/Keyboard/Mouse** DB-15 VGA connector, PS2 keyboard & mouse
- Serial Port** 2 x RS-232/485 and 1 x RS-232/422/485
- Automatic RS-485 data flow control**
- Speed** RS-232: 50 bps ~ 230.4 kbps
RS-422/485: 50 bps ~ 921.6 kbps
- LAN** One 10/100Base-T RJ-45 port
- USB** Two USB ports, USB OHCI, Rev. 1.0 compliant
- SSD** One internal type/II CompactFlash slot
- LED** Power, GPS, GPRS, reserved for DO.
- GPS** Receiver: 16 channels, L1 civil frequency 1575.42 MHz, C/A code
Accuracy: 2.5m CEP
GPS 2m CEP (Depending on accuracy of correction data).
Signal reacquisition: < 1 sec.
Protocol: NMEA-0183 input/output
UBX binary input/output
RTCM in
- GPRS class** 10
PBCC support
Coding Schemes: CS1 to CS4
- SMS (Short Message Service) point-to-point MT/MO and SMS CB**
- 4-ch isolated Digital Input (DI0~DI3)** Supports dry/wet contact
2000 V_{DC} isolation
70 V_{DC} over-voltage protection
- 4-ch isolated Digital Output (DO0~DO3)** Open collector to 40V (200 mA max load)
- Special power management design**

- Anti-Shock** 50 G @ Wall mounting, IEC 68 section 2-27, half sine, 11ms w/CF
- Anti-Vibration** 2 Grms @ Wall mounting, IEC 68-6, random, 5 ~ 500 Hz, 1 Oct./min, 1hr/axis
- Power Supply** 9 ~ 36 V_{DC}
- Operating Temperature** -10 ~ 55° C (14 ~ 140° F) @ 5~85% relative humidity
- Storage Temperature** -20 ~ 70° C (-4 ~ 158° F) @ 5~85% relative humidity
- Relative Humidity** 95% @ 40° C
- Chassis Size (WxDxH)** 188.8 x 106.5 x 51.0 mm (7.5" x 4.2" x 2.0")
- Weight** 1.2 kg

Ordering Information

- UNO-2058CE-GDA0** GX1-300 Universal Network Controller with 64MB SDRAM and GPS/GPRS communication, built-in 32MB CF and Windows® CE.NET 4.2 OS.

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Software

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TPC

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FPM

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ADAM-3000

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Motion Control

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ADAM-4000

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ADAM-5000

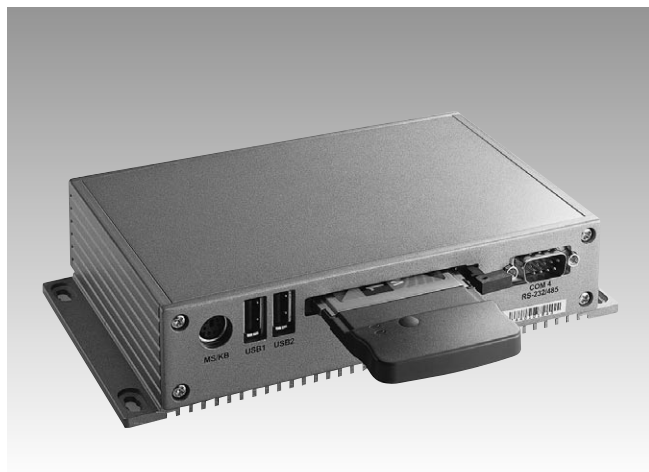
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ADAM-6000

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ADAM-8000

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BAS

UNO-2059

GX1-300 UNO with PC Card, LAN, 2xUSB, 2xRS-232/485, 2xRS-232/422/485



CE FCC

Features

- On-board GX1-300 MHz, 64/128 MB SDRAM
- Two RS-232/485 and two RS-232/422/485 ports with automatic flow control.
- One 10/100Base-T RJ-45 port.
- Two USB ports and one type I/II PC Card.
- One programmable diagnostic LED and buzzer.
- Supports Modbus/RTU and Modbus/TCP devices.
- Supports ADAM series for remote data acquisition and control
- Supports Wireless LAN PCMCIA modules.
- Microsoft® Windows® CE .NET ready solution.

Introduction

Advantech's UNO-2059 is a 586-grade platform that offers USB and PC card interfaces to fulfill user's I/O device expansion needs. In addition, it also offers two RS-232/485 and two RS-232/422/485 communication ports on board with automatic flow control functionality. The UNO-2059 is an ideal and compact solution for large computing and communication requirements.

UNO-2059 comes with a Windows® CE OS offering a pre-configured image with optimized onboard device drivers. Microsoft® Windows® CE is a compact, highly efficient, real-time operating system designed for embedded systems without mechanical HDD limitations.

To expand storage capability, the UNO-2059 allows the addition of an external 2.5" HDD using Advantech's UNO HDD extension kit. It can be used for large data backup requirements and popular OS installations such as Microsoft® Windows® and Linux® OS. Significant anti-vibration (1G w/ HDD) is maintained even with the mechanical HDD inside.

UNO-2059 is a perfect embedded application ready platform that can shorten your development time and offer a rich networking interface to fulfill your diverse requirements.

Specifications

- CPU** NS Geode™ GX1-300 MHz with 64/128 MB SDRAM on board
- VGA/Keyboard/Mouse** DB-15 VGA Connector, PS/2 keyboard & mouse
- Serial Port** 2 × standard RS-232, 2 × RS-232/RS-422/485
- Automatic RS-485 data flow control
- RS-422/485 surge protection up to 2,000 V_{DC}
- Speed: RS-232: 50 ~ 230.4 kbps;
RS-422/485: 50 ~ 921.6 kbps
- USB Interface** Two USB ports, USB OpenHCI, Rev. 1.0 compliant
- LAN** One 10/100Base-T RJ-45 Port
- PC Card** One PC Card slot
Supports CardBus (Card-32) Card and 16-bit (PCMCIA 2.1/JEIDA4.2) Card
Support +5 V, +3.3 V and +12 V @ 120 mA power
- SSD** One internal type I/II CompactFlash® slot
- HDD** HDD extension kit offered for installation of one standard 2.5" HDD.
- Watchdog Timer** Programmable.
- LED** Power LED, IDE LED, one programmable diagnostic LED and one buzzer.
- Power Supply** 9 ~ 36 V_{DC}
- Anti-Shock** 20 G @ DIN IEC 68 section 2-27, half sine, 11ms
50 G @ Wall/Panel IEC 68 section 2-27, half sine, 11 ms.
- Anti-Vibration** 2 G w/ CF @ IEC 68 section 2-6, sine, 5 ~ 500 Hz, 1 Oct./min, 1 hr/axis.
1 G w/ HDD @ IEC 68 section 2-6, sine, 12 ~ 300 Hz, 1 Oct./min, 1 hr/axis.
- Operating Temperature** -10 ~ 55° C (14 ~ 131° F) @ 5~85% related humidity.
- Related Humidity** 95 % @ 40° C.

- Power Consumption** 0.6 A max under +24 V power input or 1.2 A max under +12 V power input
- Power Requirement** 1 A typical under +24 V power input or 1.5 A typical under +12 V power input
- Chassis Size (WxDxH)** 188.8 x 106.5 x 35.5 mm (7.5" × 4.2" × 1.4")
- Weight** 0.8 kg

Driver Support

- Windows® CE** UNO configuration utility, Programmable LED and buzzer Driver. Watchdog timer Driver.
- Linux** Programmable LED and buzzer Driver. Watchdog timer Driver.
- Windows® 2000/XP** COM port driver
Programmable LED and buzzer Driver
Watchdog timer Driver.

Ordering Information

- UNO-2059-GDA1** GX1-300 Universal Network Controller with 64 MB SDRAM, PC Card, LAN, 2 x USB, 2 x RS-232/485, 2 x RS-232/422/485
- UNO-2059CE-GDA2** GX1-300 Universal Network Controller with 64 MB SDRAM PC Card, LAN, 2 x USB, 2 x RS-232/485, 2 x RS-232/422/485 and 32MB CF with Windows® CE .NET 4.2 OS.
- UNO-2059-HDA1** GX1-300 Universal Network Controller with 128 MB SDRAM, PC Card, LAN, 2 x USB, 2 x RS-232/485, 2 x RS-232/422/485
- UNO-HD20-A** UNO-2000 HDD extension kit