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Embedded Automation Computers: UNO-1000, 2000, & 3000 Series
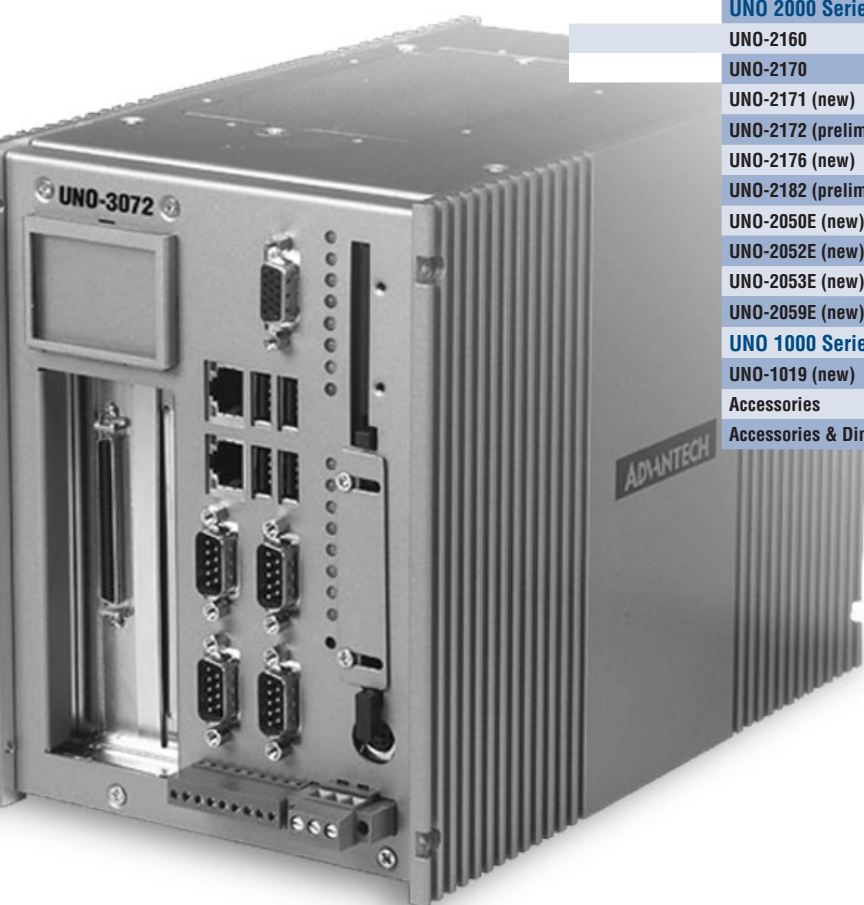
UNO-1000, 2000 & 3000 Series Embedded Automation Computers

Introduction

If you are looking for a suitable embedded application ready platform (ARP) that can shorten development time and offers rich networking interfaces, Advantech's UNO series is a great solution.

Leveraging field-approved and worldwide accepted real-time OS technology, Advantech's UNO series provides Windows CE, and Windows XP Embedded ready solutions and supports several standard networking interfaces, such as Ethernet, Wireless Ethernet, RS-232/422/485, onboard I/O interfaces, PC cards, and more. Because of its open architecture, great expansion capability and reliable fanless and diskless design, Advantech's 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, including Windows and Linux.
- Standard communication interface: Supports RS-232/422/485 serial ports, Ethernet ports, USB, and PC cards.
- Expansion capability: Provides PCI, PC/104, and/or PC/104+ slots.
- Computing capability: Pentium M to Celeron M computing power.

Network

- Ethernet, Wireless LAN, modems, and other networking options.

Control

- Supports the 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 critical and harsh environments. The UNO series special fanless design eliminates the weakness of traditional PCs. 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.

Open System Architecture Designed for Automation

Advantech's UNO series 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 expansion slots, and VGA for display panels. With rich interface support, the UNO series can connect to a diverse range of devices and equipment for automation control.

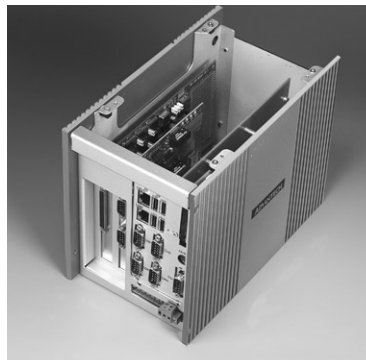### Ready Embedded OS for Rapid Application Development

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

Flexible Networking Options

Advantech's UNO series supports diverse ways to connect to a network, including Ethernet, Wireless LAN and Modems. UNO's built-in Ethernet port provides high-speed networking capability up to 100 Mbps. The PCMCIA expansion 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, PC/104, or PC/104+ interfaces for flexible expansion, such as PCI, PC/104, or PC/104+ form-factor cards. Advantech is widely 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-3000 series with PCI Card

UNO-2100 series with PC/104 Module

ADVANTECH **Embedded Automation Computers**

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, 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 an application-ready platform that saves you time and energy in launching your projects.

Hard Real-Time Windows CE Meets Time-critical Demands

Windows CE, 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 supports the latest stack network standard, IPv6 that provides more IP addresses than the previous standard, IPv4. Windows CE possesses robust core OS services and complete networking services to offer users an ideal embedded development platform.

WinXPe 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, 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 Software Support

Applications and Services Development	The combined Web and application services of Windows CE provide unsurpassed opportunities to build smart, mobile, and connected devices that have access to Windows operating systems, applications, databases, and the Internet. ▪ 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 Queuing (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	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. ▪ Microsoft ActiveSync® ▪ CAB File Installer/Uninstaller ▪ Help ▪ Remote Desktop Connection
Core Operating System Services	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. ▪ USB Host Support ▪ Kernel Features ▪ Real-Time Support ▪ Fonts
Communication Services and Networking	Windows CE provides networking and communications capabilities that enable devices to connect and communicate securely with other devices and people over both wireless and wired networks. ▪ Networking Features: Protected Extensible Authentication Protocol (PEAP), firewall, Network Driver Interface Specification (NDIS) 5.1, utilities, Universal Plug & Play (UPnP), TCP/IP, TCP/IPv6

	▪ 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	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. ▪ File System ▪ Registry Storage
Multimedia and Browsing Services	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 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–based devices. ▪ Internet Explorer 5.5 for Windows CE ▪ Scripting (Microsoft Jscript® 5.5, VBScript 5.5)
Security	Security services supported in Windows CE 5.0 help users to connect securely over networks and between specified devices, enabling better protection of personal content and data. Authentication Services ▪ Kerberos ▪ Secure Socket Layer (SSL) Cryptography Services ▪ CryptoAPI 1.0 with High Encryption Provider
Shell and User Interface	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. ▪ Graphics, Windowing, and Events ▪ Shell ▪ User Interface (customizable UI, software input panel)

1 PAC & Software
2 BAS
3 UNO
4 RS-485 I/O
5 Ethernet I/O
6 TPC
7 IPPC
8 FPM
9 AWS
10 Plug-in I/O
11 CompactPCI
12 Signal Conditioning
13 USB I/O
14 Motion Control I/O
15 Ethernet Switch
16 EDG
17 ICOM

UNO Series Selection Guide

Model Name	UNO-1019	UNO-2050E	UNO-2052E	UNO-2053E	UNO-2059E	UNO-2160	UNO-2170
CPU	XScale PXA 255 200 MHz	GX2-400 MHz				Celeron 400 MHz	Celeron M 1 GHz
Onboard RAM	64 MB SDRAM	256 MB DDR SDRAM				256 MB SDRAM	512 MB DDR SDRAM
Battery-Backup RAM	-	-				512 KB	
VGA/Mouse/Keyboard	-	Yes					
Audio	-	-	-	Yes	-	-	-
Serial Ports	2 x RS-232 2 x RS-232/422/485	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	
Ethernet Ports	2 x 10/100Base-T	2 x 10/100Base-T	1 x 10/100Base-T	2 x 10/100Base-T	1 x 10/100Base-T	2 x 10/100Base-T	
USB Ports	-	-	One	Two	Two	Two	Two
PC Card Slots	-	-	-	One	One	One	One
Printer Ports	-	-	-	-	-	One	One
PC/104 Expansion	-	-	-	-	-	PC/104	PC/104
PCI Expansion	-	-	-	-	-	-	-
Onboard I/O	2-ch DI 2-ch DO	8-ch isolated DI 8-ch isolated DO	4-ch isolated DI 4-ch isolated DO 2-ch isolated AI	-	-	-	-
Watchdog Timer	Yes						
CompactFlash Slots	One External	One internal					
2.5" HDD Expansion	-	Option				Yes	
Operating Systems	Windows CE .NET 4.2	Windows XP Embedded, Windows CE 5.0, Windows 2000/XP, Linux					
Programming Runtime Library	Yes						
Software Development Kit	Yes						
Activesync	Yes						
Web server/ Email service	Yes						
Modem Dial-in (RAS)/ Dial-up Function	Yes						
Mounting	DIN-rail/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 68 section 2-27, half sine, 11 ms				20 G w/HDD @ IEC 68 section 2-27, half sine, 11 ms 50 G w/CF @ IEC 68 section 2-27, half sine, 11 ms	
Power Input Range	10 ~ 30 V$_{DC}$	9 ~ 36 V$_{DC}$			10 ~ 48 V$_{DC}$	9 ~ 36 V$_{DC}$	
Operating Temperature	0 ~ 70° C @ 5 ~ 85% RH	-10 ~ 55° C @ 5 ~ 85% RH				-20 ~ 50° C @ 5 ~ 85% RH	
Relative Humidity	95% @ 40° C (non-condensing)						
Power Consumption Typical	8.5 W	15 W				22 W	24 W
Power Requirement	Min. 13 W	Min. 24 W, +24 V @ 1 A power input				Min. 48 W, +24 V @ 2 A power input	
Dimensions (W x D x H)	46 x 162 x 126 mm (1.8" x 6.4" x 5")	188.8 x 106.5 x 35.5 mm (7.5" x 4.2" x 1.4")				255 x 152 x 50 mm (10" x 6.0" x 2.0")	
Weight	0.4 kg	0.8 kg				1.6 kg	

ADVANTECH **Embedded Automation Computers**

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Model Name	UNO-2171	UNO-2172	UNO-2176	UNO-2182	UNO-3072L	UNO-3072	UNO-3074
CPU	Celeron M 1.0 GHz, Pentium M 1.4	Celeron M 1.5 GHz, Pentium M 1.6 GHz	Celeron M 1.0 GHz, Pentium M 1.4 GHz	Core Duo 1.66 GHz	Celeron M 1.0 GHz, Pentium M 1.6 GHz	Celeron M 1.0 GHz, Pentium M 1.4 GHz	
Onboard RAM	512 MB/1 GB DDR SDRAM	512 MB DDR2 SDRAM	512 MB DDR DRAM	512 MB/1 GB DDR2 SDRAM	512 MB DDR SDRAM		
Battery-Backup RAM	512 KB	512 KB	512 KB	512 KB	-	512 KB	
VGA/Mouse/Keyboard	Yes	DVI-I	Yes	DVI-I	Yes		
Audio	Yes	Yes	-	Yes	-	-	-
Serial Ports	2 × RS-232, 2 x RS-232/422/485 with DB9 connectors	2 × RS-232, 2 x RS-232/422/485 with DB9 connectors	2 × RS-232, 2 x Isolated RS-232/422/485 with DB9 connectors, 2 x Isolated RS-232/422/485 with 5-pin screw terminal	2 × RS-232, 2 x RS-232/422/485 with DB9 connectors	2 x RS-232, 2 x RS-232/422/485		
Ethernet Ports	2 x 10/100Base-T	2 x 10/100/1000Base-T	2 x 10/100Base-T	2 x 10/100/1000Base-T	2 x 10/100Base-T		
USB Ports	Two	Two	Two	Two	Four		
PC Card Slots	One	One	-	One	-	One	
Printer Ports	-						
PC/104 Expansion	PC/104+	PCI-104	PC/104	PCI-104	-		
PCI Expansion	-					Two	Four
Onboard I/O	-	-	8-ch Isolated DI 8-ch Isolated DO	-	4-ch isolated DI, 4-ch isolated DO		
Watchdog Timer	Yes						
CompactFlash Slots	Two internal	One external	Two internal	One external	One internal	One internal, One external	
2.5" HDD Expansion	Yes						
Operating Systems	Windows XP Embedded, Windows CE 5.0, Windows 2000/XP, Linux	Windows XP Embedded, Windows 2000/XP	Windows XP Embedded, Windows CE 5.0, Windows 2000/XP, Linux	Windows XP Embedded, Windows 2000/XP	Windows XP Embedded, Windows CE 5.0, Windows 2000/XP, Linux		
Programming Runtime Library	Yes						
Software Development Kit	Yes						
Activesync	Yes						
Web server/Email service	Yes						
Modem Dial-53 (RAS)/Dial-up Function	Yes						
Mounting	Wall			Wall	Wall/Panel/Stand		
Anti-Vibration	2G w/CF, 1G w/HDD (for X and Y Axis), 1G w/HDD @ IEC 68 section 2-64, sine, 5 ~ 500 Hz, 1 Oct./min, 1hr/axis				2G w/CF, 1G w/HDD @ IEC 68 section 2-64, sine, 5 ~ 500 Hz, 1 Oct./min, 1hr/axis.		
Anti-Shock	20 G w/HDD @ IEC 68 section 2-27, half sine, 11 ms, 50 G w/CF @ IEC 68 section 2-27, half sine, 11 ms						
Power Input Range	10 ~ 53 V_{DC}	9 ~ 36 V_{DC}			16 ~ 36 V_{DC}		20 ~ 36 V_{DC}
Operating Temperature	-20 ~ 65° C @ 5 ~ 85% RH	-20 ~ 50° C @ 5 ~ 85% RH	-20 ~ 65° C @ 5 ~ 85% RH	-20~ 60° C @ 5 ~ 85% RH	-20 ~ 60° C @ 5 ~ 85% RH	-20 ~ 55° C @ 5 ~ 85% RH	
Relative Humidity	95% @ 40° C (non-condensing)				95% @ 40° C	95% @ 40° C (non-condensing)	
Power Consumption Typical	24 W	45 W	24 W	35 W	24 W		
Power Requirement	Min. 48 W, +24 V @ 2 A power input					Min. 96 W, +24 V @ 4 A power input	
Dimensions (W x D x H)	255 x 152 x 59 mm (10" x 6.0" x 2.3")	255 x 152 x 69 mm (10" x 6.0" x 2.7")	255 x 152 x 59 mm (10" x 6.0" x 2.3")	255 x 152 x 69 mm (10" x 6.0" x 2.7")	140 x 237 x 177 mm (5.5" x 9.3" x 7.0")		180 x 237 x 177 mm (7.1" x 9.3" x 7.0")
Weight	2.4 kg				4.2 kg	4.4 kg	5.0 kg

UNO-3072

Intel® Pentium® M UNO w/2 x PCI slot, 1 x PC Card

Features

- Onboard Pentium® M or Celeron® M processor
- Provides 512 KB battery-backup SRAM (UNO-3072 only)
- Two RS-232 & two RS-232/422/485 ports with RS-485 automatic flow control
- Two 10/100Base-T RJ-45 ports and four USB ports
- Two PCI-bus expansion slots for versatile applications
- Industrial proven design; anti-shock up to 50 G, anti-vibration up to 2 G
- 4-ch isolated DI, 4-ch isolated DO with timer, counter and interrupt handling
- Supports dual power inputs
- Windows® 2000/XP driver ready and Linux driver support
- Windows XP (SP2) Embedded Ready Platforms with write protection (EWF)
- Embedded Linux ready solution

Introduction

Advantech's UNO-3072 series is high-performance Pentium M/Celeron M grade, embedded automation computer with two PCI expansion slots. UNO-3072 features a rugged and field-proven design offering dual power inputs and battery backup SRAM. Different from general industrial PCs, UNO-3072 is more compact and reliable. They are open platforms which can fulfill any demanding requirement from the industrial field, and it is an ideal solution for industrial automation and control.

UNO-3072 provide embedded operating system with a pre-configured image that has optimized onboard device drivers, and support Windows XP Embedded to fulfill the toughest requirements for complete functionality and high reliability.

Specifications

General

- **Certifications** — CE, FCC class A
- **Dimensions (W x D x H)** — 140 x 237 x 177 mm (5.5" x 9.3" x 7.0")
- **Enclosure** — Aluminum
- **Mounting (Option)** — Wall/Panel/Stand
- **Power Consumption** — 24 W (typical, no PCI cards)
- **Power Input** — 16 ~ 36 V_{DC} (e.g. +24 V @ 2 A) (Min. 48 W), AT
- **Weight (Net)** — UNO-3072L: 4.2 kg, UNO-3072: 4.4 kg
- **OS Support** — Windows XP embedded, Windows 2000/XP, WinCE 5.0, Linux

System Hardware

- **CPU** — Celeron M 1.0 GHz or Pentium M 1.4/1.6 GHz
- **Memory** — 512 MB DDR SDRAM
- **Battery Backup RAM** — 512 KB (UNO-3072 only)
- **Expansion Slots** — 2 x PCI V 2.2
  (Note: The heat dissipation in the PCI cards may affect thermal performance)
- **Indicators** — LEDs for power, power input 1, power input 2, power fault, IDE, diagnosis, 4 COM ports Tx/Rx (UNO-3072 only), and alarm for battery backup (UNO-3072 only). Programmable buzzer.
- **Keyboard/Mouse** — 1 x PS/2
- **PC Card (UNO-3072 only)** — 1 x PC card slot, supports CardBus (Card-32), and 16-bit (PCMCIA 2.1/JEIDA4.2) card supports +5 V, +3.3 V and +12 V @ 120 mA working power
- **PCI Slot Power** — 12 V @ 2.5 A, -12 V @ 0.8 A, +5 V @ 4 A, +3.3 V @ 3 A
- **Storage**
  SSD — 1 x internal type I/II CompactFlash® slot
  1 x external type I/II CompactFlash slot (UNO-3072 only)
  HDD — Built-in HDD bracket for installation of one standard 2.5" HDD
- **VGA** — DB15 VGA connector, support to CRT mode:
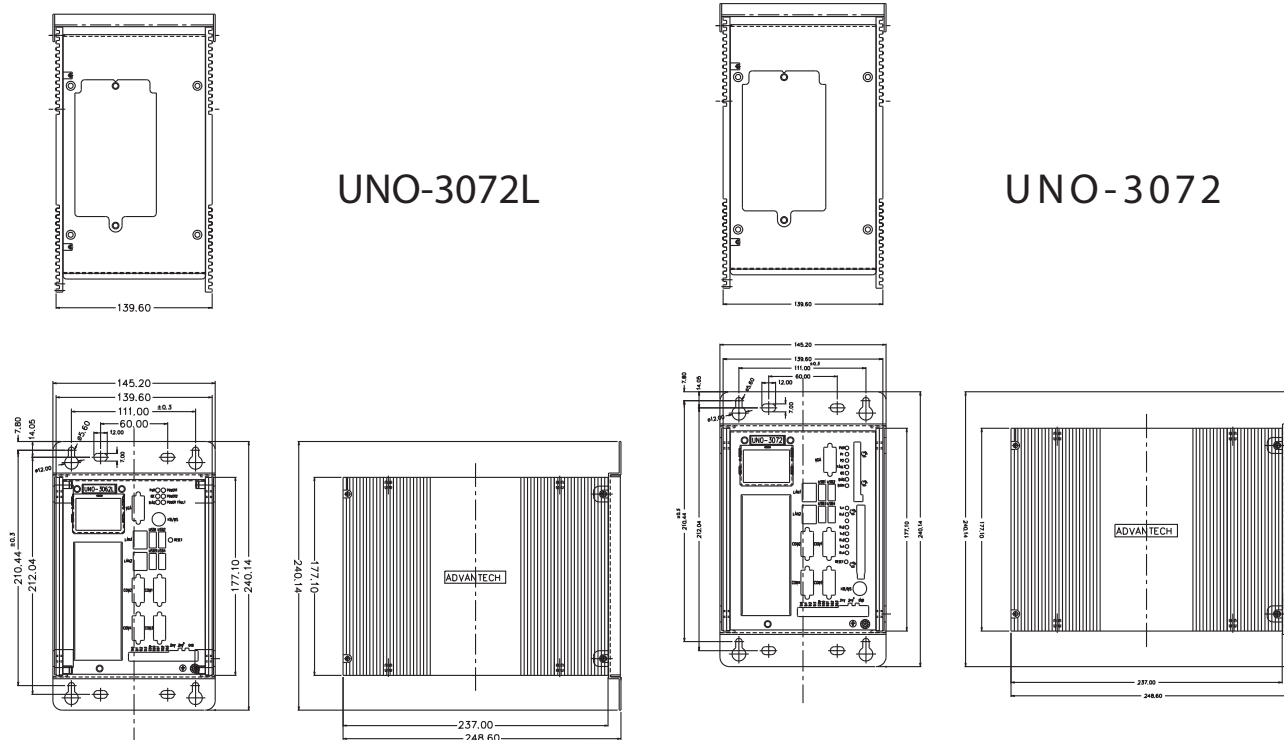
1600 x 1200 @ 85 Hz
- **Watchdog Timer** — Programmable

Communications

- **Clock** — Battery-backup RTC for time and date
- **LAN** — 2 x 10/100Base-T RJ-45 ports
- **Serial Ports** — 2 × RS-232, 2 x RS-232/422/485 with DB9 connectors Automatic RS-485 data flow control
- **Serial Ports Speed** — RS-232: 50 bps ~ 115.2 kbps
  RS-422/485: 50 bps ~ 921.6 kbps (Max.)
- **USB Ports** — 4 x USB, USB UHCI, Rev. 2.0 compliant
- **Digital Inputs (4-ch. wet contact DI0~DI3)**
  - 2,000 V_{DC} isolation
  - 50 ~ 70 V_{DC} over-voltage protection
  - ±50 V_{DC} input range and 10 kHz speed
  - Interrupt handling speed: 10 kHz
- **Digital Outputs (4 ch. DO0~DO3)**
  - 2,000 V_{DC} isolation and 200 mA max/channel sink current
  - Keep output status after system hot reset
  - 0 ~ 40 V_{DC} output range and 10 kHz speed
- **Counters/Timers (2 x 16-bit)**
  - 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

Environment

- **Humidity** — 95% @ 40° C (non-condensing)
- **Operating Temperature** — -20 ~ 55° C (-4 ~ 131° F) @ 5 ~ 85% RH(UNO-3072)
  -20 ~ 60° C (-4 ~ 140 F) @ 5 ~ 85% RH(UNO-3072L)
- **Shock Protection** — IEC 68 2-27
  CompactFlash: 50 G @ wall mount, half sine, 11 ms
  HDD: 20 G @ wall mount, half sine, 11ms
- **Vibration Protection** — IEC 68 2-64 (Random 1 Oct./min, 1hr/axis.)
  CompactFlash: 2 Grms @ 5 ~ 500 Hz
  HDD: 1 Grms @ 5 ~ 500 Hz

ADVANTECH | **Embedded Automation Computers**

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PAC & Software

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BAS

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UNO

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RS-485 I/O

5
Ethernet I/O

6
TPC

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IPPC

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FPM

9
AWS

10
Plug-in I/O

11
CompactPCI

12
Signal Conditioning

13
USB I/O

14
Motion Control I/O

15
Ethernet Switch

16
EDG

17
ICOM

Dimensions

UNO-3072L

UNO-3072

Ordering Information

- **UNO-3072L-C11E**   C-M 1.0 G, 512 MB RAM UNO-3072L
- **UNO-3072L-P21E**   P-M 1.6 G, 512 MB RAM UNO-3072L
- **UNO-3072-C11E**   C-M 1.0 G, 512 MB RAM UNO-3072
- **UNO-3072-P11E**   P-M 1.4 G, 512 MB RAM UNO-3072

Accessories

- **UNO-WM72-AE**   Wallmounting kit for UNO-3072 series
- **UNO-PM70-AE**   Panel mounting kit for UNO-3000 series
- **UNO-SM70-AE**   Stand mounting kit for UNO-3000 series

UNO-PM70-AE

UNO-WM72-AE

UNO-SM70-AE

UNO-3074

NEW

Features

- Onboard Pentium® M or Celeron® M processor
- Provides 512 KB battery-backup SRAM
- Two RS-232 & two RS-232/422/485 ports with RS-485 automatic flow control
- Two 10/100Base-T RJ-45 ports and four USB ports
- Four PCI-bus expansion slots for versatile applications
- Industrial proven design; anti-shock up to 50 G, anti-vibration up to 2 G
- 4-ch isolated DI, 4-ch isolated DO with timer, counter and interrupt handling
- Supports dual power inputs
- Windows® 2000/XP driver ready and Linux driver support
- Windows XP (SP2) Embedded Ready Platforms with write protection (EWF)
- Embedded Linux ready solution

Windows Embedded | RoHS COMPLIANT 2002/95/EC | CE FCC

Introduction

Advantech's UNO-3074 series is high-performance Pentium M/Celeron M grade, embedded automation computers with four PCI expansions. UNO-3074 features a rugged and field-proven design offering dual power inputs and battery backup SRAM. Different from general industrial PCs, UNO-3074 is more compact and reliable. This 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.

UNO-3074 provides embedded operating system with a pre-configured image that has optimized onboard device drivers, and support Windows XP Embedded to fulfill the toughest requirements for complete functionality and high reliability.

Specifications

General

- **Certifications** CE, FCC class A
- **Dimensions (W x D x H)** 180 x 237 x 177 mm (7.1" x 9.3" x 7.0")
- **Enclosure** Aluminum
- **Mounting (Option)** Wall/Panel/Stand
- **Power Consumption** 24 W (typical, no PCI cards)
- **Power Input** 20 ~ 36 V_{DC} (e.g. +24 V @ 4 A) (Min. 96 W), AT
- **Weight (Net)** 5.0 kg
- **OS Support** Windows XP embedded, Windows 2000/XP, WinCE 5.0, Linux

System Hardware

- **CPU** Celeron M 1.0 GHz or Pentium M 1.4 GHz
- **Memory** 512 MB DDR SDRAM
- **Battery Backup RAM** 512 KB
- **Expansion Slots** 4 x PCI V 2.2 (Note: The heat dissipation in the PCI cards may affect thermal performance)
- **Indicators** LEDs for power, power input 1, power input 2, power fault, IDE, diagnosis, 4 COM ports Tx/Rx, and alarm for battery backup.Programmable buzzer.
- **Keyboard/Mouse** 1 x PS/2
- **PC Card** 1 x PC card slot, supports CardBus (Card-32), and 16-bit (PCMCIA 2.1/JEIDA4.2) card supports +5 V, +3.3 V and +12 V @ 120 mA working power
- **PCI Slot Power** 12 V @ 5 A, -12V @ 0.8 A, +5 V @ 8 A, +3.3 V @ 6 A
- **Storage**
  SSD: 1 x internal type I/II CompactFlash® slot
  1 x external type I/II CompactFlash slot
  HDD: Built-in HDD bracket for installation of one standard 2.5" HDD
- **VGA** DB15 VGA connector, support to CRT mode: 1600 x 1200 @ 85 Hz
- **Watchdog Timer** Programmable

Communications

- **Clock** Battery-backup RTC for time and date
- **LAN** 2 x 10/100Base-T RJ-45 ports
- **Serial Ports** 2 × RS-232, 2 x RS-232/422/485 with DB9 connectors Automatic RS-485 data flow control
- **Serial Ports Speed** RS-232: 50 bps ~ 115.2 kbps
  RS-422/485: 50 bps ~ 921.6 kbps (Max.)
- **USB Ports** 4 x USB, USB UHCI, Rev. 2.0 compliant
- **Digital Inputs (4-ch. wet contact DI0~DI3)**
  - 2,000 V_{DC} isolation
  - 50 ~ 70 V_{DC} over-voltage protection
  - ±50 V_{DC} input range and 10 kHz speed
  - Interrupt handling speed: 10 kHz
- **Digital Outputs (4 ch. DO0~DO3)**
  - 2,000 V_{DC} isolation and 200 mA max/channel sink current
  - Keep output status after system hot reset
  - 0 ~ 40 V_{DC} output range and 10 kHz speed
- **Counters/Timers (2 x 16-bit)**
  - 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

Environment

- **Humidity** 95% @ 40° C (non-condensing)
- **Operating Temperature** -20 ~ 55° C (-4 ~ 131° F) @ 5 ~ 85% RH
- **Shock Protection** IEC 68 2-27
  CompactFlash: 50 G @ wall mount, half sine, 11 ms
  HDD: 20 G @ wall mount, half sine, 11ms
- **Vibration Protection** IEC 68 2-64 (Random 1 Oct./min, 1hr/axis.)
  CompactFlash: 2 Grms @ 5 ~ 500 Hz
  HDD: 1 Grms @ 5 ~ 500 Hz

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Dimensions
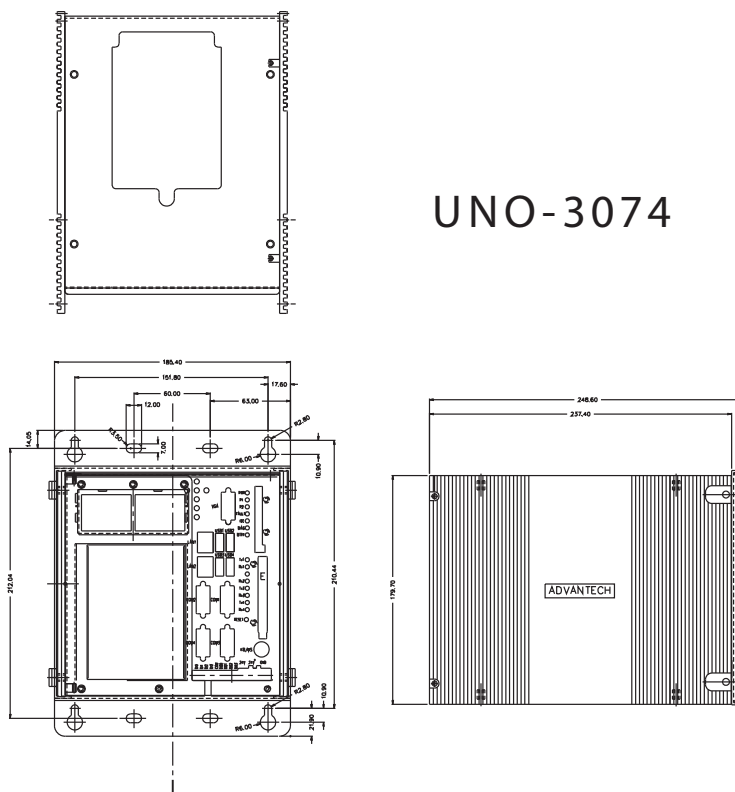
UNO-3074

Ordering Information

- **UNO-3074-C11E**   C-M 1.0G, 512MB RAM UNO-3074
- **UNO-3074-P11E**   P-M 1.4G, 512MB RAM UNO-3074

Accessories

- **UNO-WM74-AE**   Wallmounting kit for UNO-3074
- **UNO-PM70-AE**   Panel mounting kit for UNO-3000 series
- **UNO-SM70-AE**   Stand mounting kit for UNO-3000 series

UNO-PM70-AE

UNO-WM74-AE

UNO-SM70-AE

UNO-2160

Features

- Onboard Celeron® 400 MHz
- Provides 512 KB battery-backup SRAM
- 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 expansion slots
- Windows® CE 5.0, Windows XP Embedded, and Linux ready solution

Introduction

UNO-2160 is an embedded automation computer that supports PC/104 expansion, serial communication ports and several other networking interfaces. UNO-2160 supports Windows XP Embedded OS and Windows 5.0, 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 and speed up your system development with an application ready platform that can provide a rich networking interface to fulfill diverse requirements.

Specifications

General

- **Certifications** CE, FCC class A, UL
- **Dimensions (W x D x H)** 255 x 152 x 50 mm (10" x 6.0" x 2.0")
- **Enclosure** Aluminum
- **Mounting** Wall
- **Power Consumption** 22 W (Typical)
- **Power Input** 9 ~ 36 V_{DC} (e.g +24 V @ 2 A) (Min. 48 W), AT
- **Weight** 1.6 kg
- **OS Support** Windows® XP Embedded, Windows® 2000/XP, Windows® CE 5.0, Linux

System Hardware

- **CPU** Celeron® 400 MHz Ultra low-voltage version
- **Memory** 256 MB SDRAM
- **Battery Backup RAM** 512 KB
- **Indicators** LEDs for power, IDE, alarm for RAM backup battery,
- **Keyboard/Mouse** 1 x PS/2
- **PC Card** 1 x PC Card slot, supports CardBus (Card-32) Card and 16-bit (PCMCIA 2.1/JEIDA4.2) card Supports +5, +3.3 and +12 V @120 mA working power
- **PC/104** 2 x PC/104 slots (optional). Supports +5V power
- **Printer Port** 1 x printer port
- **Storage** SSD: 1 x internal type I/II CompactFlash® slot HDD: one standard 2.5" HDD
- **VGA** DB15 VGA connector, 1280 x 1024 @ 60 Hz

Communications

- **Serial Ports** 2 × RS-232, 2 x RS-232/422/485 with DB9 connectors Automatic RS-485 data flow control
- **Serial Port Speed** RS-232: 50 ~ 115.2 kbps RS-422/485: 50 ~ 921.6 kbps (Max.)
- **LAN** 2 x 10/100 Base-T RJ-45 ports
- **USB Ports** 2 x USB, UHCI, Rev. 1.1 compliant

Environment

- **Humidity** 95% @ 40° C (non-condensing)
- **Operating Temperature** -20 ~ 50° C (-4 ~ 122° F) @ 5 ~ 85% RH
- **Shock Protection** IEC 68 2-27 CompactFlash®: 50 G @ wall mount, half sine, 11 ms HDD: 20 G @ wall mount, half sine, 11 ms
- **Vibration Protection** IEC 68 2-64 (Random 1 Oct./min, 1hr/axis.) CompactFlash®: 2 Grms @ 5 ~ 500 Hz, HDD: 0.5 Grms @ 5 ~ 500 Hz

Ordering Information

- **UNO-2160-JDA0E** Intel Celeron UNO w/2 x LAN, 4 x COM, PC/104

Accessories

- **UNO-PCM21-AE** UNO-2100 series 2 x PC/104 expansion kit
- **UNO-FPM21-AE** UNO & FPM integration kit

ADVANTECH **Embedded Automation Computers**

UNO-2170

Features

- Onboard Celeron® M 1.0 GHz
- Provides 512 KB battery-backup SRAM
- 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
- PC/104 expansion slots
- Windows® CE 5.0, Windows XP Embedded, and Linux ready solution

Introduction

UNO-2170 is an embedded automation computer that supports PC/104 expansion, serial communication ports and several other networking interfaces. UNO-2170 supports Windows XP Embedded OS and Windows CE 5.0, 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 and speed up your system development with an application ready platform that can provide a rich networking interface to fulfill diverse requirements.

Specifications

General

- **Certifications** CE, FCC class A, UL
- **Dimensions (W x D x H)** 255 x 152 x 50 mm (10" x 6.0" x 2.0")
- **Enclosure** Aluminum
- **Mounting** Wall
- **Power Consumption** 24 W (Typical)
- **Power Input** 9 ~ 36 V_{DC} (e.g +24 V @ 2 A) (Min. 48 W), AT
- **Weight** 1.6 kg
- **OS Support** Windows XP Embedded, Windows 2000/XP, Windows CE 5.0, Linux

System Hardware

- **CPU** Celeron M 1.0 GHz
- **Memory** 512 MB DDR SDRAM
- **Battery Backup RAM** 512 KB
- **Indicators** LEDs for power, IDE, alarm for RAM backup battery,
- **Keyboard/Mouse** 1 x PS/2
- **PC Card** 1 x PC Card slot, supports CardBus (Card-32) Card and 16-bit (PCMCIA 2.1/JEIDA4.2) card Supports +5, +3.3 and +12 V @ 120 mA working power
- **PC/104** 2 x PC/104 slots (optional). Supports +5V power
- **Printer Port** 1 x printer port
- **Storage** SSD: 1 x internal type I/II CompactFlash® slot HDD: one standard 2.5" HDD
- **VGA** DB15 VGA connector, 1600 x 1200 @ 85 Hz
- **Watchdog Timer** Programmable

Communications

- **Serial Ports** 2 × RS-232, 2 x RS-232/422/485 with DB9 connectors Automatic RS-485 data flow control
- **Serial Port Speed** RS-232: 50 ~ 115.2 kbps RS-422/485: 50 ~ 921.6 kbps (Max.)
- **LAN** 2 x 10/100 Base-T RJ-45 ports
- **USB Ports** 2 x USB, UHCI, Rev. 2.0 compliant

Environment

- **Humidity** 95% @ 40° C (non-condensing)
- **Operating Temperature** -20 ~ 50° C (-4 ~ 122° F) @ 5 ~ 85% RH.
- **Shock Protection** IEC 68 2-27 CompactFlash: 50 G @ wall mount, half sine, 11 ms HDD: 20 G @ wall mount, half sine, 11 ms
- **Vibration Protection** IEC 68 2-64 (Random 1 Oct./min, 1hr/axis.) CompactFlash: 2 Grms @ 5 ~ 500 Hz, HDD: 0.5 Grms @ 5 ~ 500 Hz

Ordering Information

- **UNO-2170-C11E** C-M 1.0 G, 512 MB RAM UNO-2170

Accessories

- **UNO-PCM21-AE** UNO-2100 series 2 x PC/104 expansion kit
- **UNO-FPM21-AE** UNO & FPM integration kit

UNO-2171

Intel® Pentium® M UNO w/2 x LAN, 4 x COM, PC/104+

NEW

Features

- Onboard Pentium® M 1.4 GHz Celeron® M 1.0 GHz
- Provides 512 KB battery-backup SRAM
- Two RS-232 and two RS-232/422/485 ports with automatic flow control.
- Two 10/100Base-T RJ-45 ports
- Audio with Mic in, Line in, Line out
- Two USB and one type I/II PC Card
- PC/104+ expansion slots
- Windows® CE 5.0, Windows XP Embedded SP2, and Linux ready solution

Windows Embedded   RoHS COMPLIANT 2002/95/IEC   CE   FCC   UL

Introduction

UNO-2171 is an embedded automation computer that supports PC/104+ expansion, serial communication ports and several other networking interfaces. UNO-2171 supports Windows XP Embedded OS and Windows CE 5.0, 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 and speed up your system development with an application ready platform that can provide a rich networking interface to fulfill diverse requirements.

Specifications

General

- **Certifications** CE, FCC class A, UL
- **Dimensions (W x D x H)** 255 x 152 x 59 mm (10" x 6.0" x 2.3")
- **Enclosure** Aluminum
- **Mounting** Wall
- **Power Consumption** 24 W (Typical)
- **Power Input** 10 ~ 53 V_{DC} (e.g +24 V @ 2 A) (Min. 48 W), ATX
- **Weight** 2.4 kg (Typical)
- **OS Support** Windows XP Embedded, Windows 2000/XP, Windows CE 5.0, Linux

System Hardware

- **CPU** Pentium M 1.4 GHz, Celeron M 1.0 GHz
- **Memory** 512 MB/1 GB DDR SDRAM
- **Battery Backup RAM** 512 KB
- **Indicators** LEDs for power, IDE, alarm for RAM backup battery,
- **Keyboard/Mouse** 1 x PS/2
- **PC Card** 1 x PC Card slot, supports CardBus (Card-32) Card and 16-bit (PCMCIA 2.1/JEIDA4.2) card Supports +5V, +3.3V
- **PC/104+** PC/104+ slot, Supports +5V Power
- **Storage** SSD: 2 x internal type I/II CompactFlash® slot HDD: one standard 2.5" HDD
- **VGA** DB15 VGA connector, 1600 x 1200 @ 85 Hz
- **Audio** Mic in, Line in, Line out
- **Watchdog Timer** Programmable

Communications

- **Serial Ports** 2 × RS-232, 2 x RS-232/422/485 with DB9 connectors Automatic RS-485 data flow control
- **Serial Port Speed** RS-232: 50 ~ 115.2 kbps

RS-422/485: 50 ~ 921.6 kbps (Max.)
- **LAN** 2 x 10/100Base-T RJ-45 ports
- **USB Ports** 2 x USB, UHCI, Rev. 2.0 compliant

Environment

- **Humidity** 95% @ 40° C (non-condensing)
- **Operating Temperature** -20 ~ 65° C (-4 ~149° F) @ 5 ~ 85% RH
- **Shock Protection** IEC 68 2-27 CompactFlash: 50 G @ wall mount, half sine, 11 ms HDD: 20 G @ wall mount, half sine, 11 ms
- **Vibration Protection** IEC 68 2-64 (Random 1 Oct./min, 1hr/axis.) CompactFlash: 2 Grms @ 5 ~ 500 Hz, HDD: 1 Grms @ 5 ~ 500 Hz

Ordering Information

- **UNO-2171-C11E** C-M 1.0 G, 512 MB RAM UNO-2171
- **UNO-2171-P11E** P-M 1.4 G, 512 MB RAM UNO-2171
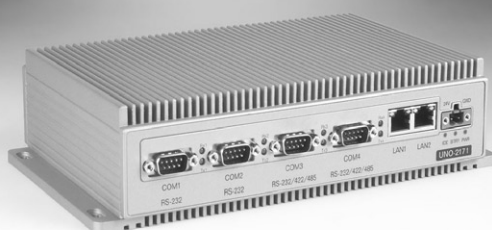- **UNO-2171-P12E** P-M 1.4 G, 1 GB RAM UNO-2171

Accessories

- **UNO-PCM22-AE** 2 x PC/104 expansion kit
- **UNO-FPM21-AE** UNO & FPM integration kit

ADVANTECH | **Embedded Automation Computers**

UNO-2172

Preliminary

Features

- Onboard Pentium M 1.6 GHz or Celeron M 1.5 GHz
- Provides 512KB battery-backup SRAM
- 2 x RS-232 and two RS-232/422/485 ports with automatic flow control
- 2 x 10/100/1000Base-T Ethernet
- DVI-I supports dual display
- Audio with Mic in, Line in, Line out
- Two USB and one type I/II PC Card
- PCI-104 expansion
- Windows XP Embedded SP2 ready solution
- Supports SATA-1 HDD and external eSATA devices

1 PAC & Software
2 BAS
3 UNO
4 RS-485 I/O
5 Ethernet I/O
6 TPC
7 IPPC
8 FPM
9 AWS
10 Plug-in I/O
11 CompactPCI
12 Signal Conditioning
13 USB I/O
14 Motion Control I/O
15 Ethernet Switch
16 EDG
17 ICOM

Introduction

UNO-2172 is a high-performance Pentium grade controller that supports PCI-104 expansion, serial communication ports and several other networking interfaces. UNO-2172 supports Windows XP Embedded OS, 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 and speed up your system development with an application ready platform that can provide a rich networking interface to fulfill diverse requirements.

Specifications

General

- **Certifications**   CE, FCC class A, UL
- **Dimensions (W x D x H)** 255 x 152 x 69 mm (10" x 6.0" x 2.7")
- **Enclosure**   Aluminum
- **Mounting**   Wallmount
- **Power Consumption**   45 W (Typical)
- **Power Input**   Min. 48 W (9 ~ 36 V_{DC}) (e.g +24 V @ 2 A), ATX
- **Weight**   2.4 kg
- **OS Support**   Windows XP Embedded, Windows 2000/XP

System Hardware

- **CPU**   Pentium M 1.6 GHz
           Celeron M 1.5 GHz
- **Memory**   512 MB DDR2 SDRAM
- **Indicators**   LEDs for power, IDE, alarm for RAM backup battery
- **Battery Backup RAM**   512 KB
- **Keyboard/Mouse**   1 x PS/2
- **PC Card**   1 x PC Card slot, supports CardBus (Card-32) Card and 16-bit (PCMCIA 2.1/JEIDA4.2) card
           Supports +5V, +3.3V
- **PCI-104**   PCI-104 slot
- **Storage**   SSD: 1 x external type I/II CompactFlash® slot
           HDD: 1 x standard 2.5" SATA-1 HDD
- **Display**   DVI-I supports DVI and VGA for dual display
- **Audio**   Mic in, Line in, Line out
- **SATA**   1 x internal, 1 x external eSATA
- **Watchdog Timer**   Programmable

Communications

- **Serial Ports**   2 × RS-232, 2 x RS-232/422/485 with DB9 connectors
           Automatic RS-485 data flow control
- **Serial Port Speed**   RS-232: 50 ~ 115.2 kbps
           RS-422/485: 50 ~ 921.6 kbps (Max.)
- **LAN**   2 x 10/100/1000Base-T Ethernet
           RJ45 ports
- **USB Ports**   2 x USB, UHCI, Rev. 2.0 compliant

Environment

- **Humidity**   95% @ 40° C (non-condensing)
- **Operating Temperature** -20 ~ 50° C (-4 ~ 122° F) @ 5 ~ 85% RH.
- **Shock Protection**   IEC 68 2-27
           CompactFlash: 50 G @ wall mount, half sine, 11 ms
           HDD: 20 G @ wall mount, half sine, 11 ms
- **Vibration Protection**   IEC 68 2-64 (Random 1 Oct./min, 1hr/axis.)
           CompactFlash: 2 Grms @ 5 ~ 500 Hz,
           HDD: 1 Grms @ 5 ~ 500 Hz

Ordering Information

- **UNO-2172-C21E**   C-M 1.5 G, 512 MB RAM UNO-2172
- **UNO-2172-P21E**   P-M 1.6 G, 512 MB RAM UNO-2172

Accessories

- **UNO-PCM22-AE**   2 x PC/104 expansion kit
- **UNO-FPM21-AE**   UNO& FPM integration kit

UNO-2176

NEW

Features

- Onboard Pentium® M 1.4 GHz/Celeron® M 1.0 GHz
- Provides 512 KB battery-backup SRAM
- Two RS-232 and four isolated RS-232/422/485 ports with automatic flow control
- 8-ch Digital Input and 8-ch Digital Output
- Two 10/100Base-T RJ-45 ports
- Two USB ports
- PC/104 expansion slots
- Windows® CE 5.0, Windows XP Embedded SP2, and Linux ready solution

Introduction

UNO-2176 is an embedded automation computer that supports PC/104 expansion, serial communication ports and several other networking interfaces. UNO-2176 supports Windows XP Embedded OS and Windows CE 5.0, 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 and speed up your system development with an application ready platform that can provide a rich networking interface to fulfill diverse requirements.

Specifications

General

- **Certification** — CE, FCC Class A, UL
- **Dimension (W x D x H)** — 255 x 152 x 59 mm (10" x 6.0" x 2.36")
- **Enclosure** — Aluminum
- **Mounting** — Wall
- **Power Consumption** — 24 W (Typical)
- **Power Input** — 9 ~ 36 V_{DC} (e.g +24 V @ 2 A) (Min. 48 W), AT
- **Weight** — 2.4 kg
- **OS Support** — Windows XP Embedded, Windows 2000/XP, Windows CE 5.0

System Hardware

- **CPU** — Pentium M 1.4 GHz, Celeron M 1.0 GHZ
- **Memory** — 512 MB DDR SDRAM
- **Battery Backup RAM** — 512 KB
- **Indicators** — Power, IDE, alram for RAM backup battery, programable LED and Serial (Tx,Rx) (COM1-COM4)
- **Keyboard/Mouse** — 1 x PS/2
- **PC/104** — PC/104 slot, Supports +5V Power
- **Storage** — SSD: 1 x internal type I/II CompactFlash® slot
  HDD: one standard 2.5" HDD
- **VGA** — DB15 VGA connector, 1600 x 1200 @ 85 Hz
- **Watchdog Timer** — Programmable

Communication

- **Serial ports** — 2 x RS-232
  2 x isolated RS-232/422/485 with DB9 connectors
  2 x isolated RS-232/422/485 with 5-pin screw terminal
  Automatic RS-485 data flow control
  Isolation protection: 2,000 V_{DC}
  Surge protection: 2,000 VDC (EFT)
- **Serial Port Speed** — (COM1,COM2) RS-232: 50 ~ 115.2 kbps,
  (COM3-COM6) RS-232: 300 ~ 115.2 kbps
  RS-422/485: 300 ~ 921.6 kbps (Max.)
- **LAN** — 2 x 10/100Base-T RJ-45 ports
- **USB** — 2 x USB, UHCI, Rev. 2.0 compliant

Digital Input/Digital Output

- **Digital Inputs** — 8-ch wet contact
  - 2,000 V_{DC} isolation
  - 2,000 V_{DC} ESD protection
  - 70 V_{DC} over-voltage protection
  - ±50 V_{DC} input range and 10 kHz speed
  - Interrupt handling speed: 10 kHz
- **Digital Outputs** — 8-ch DO
  - 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

Timer/Counter

- **Timer/Counter** — Timer/Counter
  - 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

Enviroment

- **Humidity** — 95% @ 40° C (non-condensing)
- **Operating Temperature** — UNO-2176-C11E: -20 ~ 65° C (-4 ~ 149° F) @ 5 ~ 85% RH
  UNO-2176-P11E: -20 ~ 60° C (-4 ~ 140° F) @ 5 ~ 85% RH
- **Operating Humidity** — 20 ~ 95% (non-condensing)
- **Shock Protection** — IEC 68 2-27
  CompactFlash®: 50 G @ wall mount, half sine, 11 ms
  HDD: 20 G @ wall mount, half sine, 11 ms
- **Vibration Protection** — IEC 68 2-64 (Random 1 Oct./min, 1hr/axis.)
  CompactFlash®: 2 Grms @ 5 ~ 500 Hz,
  HDD: 1 Grms @ 5 ~ 500 Hz

Ordering Information

- **UNO-2176-C11E** — C-M 1.0G, 512 MB RAM UNO-2176
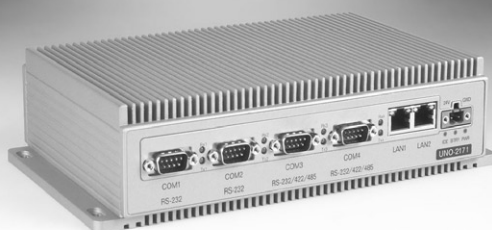- **UNO-2176-P11E** — P-M 1.4G, 512 MB RAM UNO-2176

Accessories

- **UNO-PCM22-AE** — 2 x PC/104 expansion kit
- **UNO-FPM21-AE** — UNO & FPM integration kit

ADVANTECH | **Embedded Automation Computers**

UNO-2182

Preliminary

Features

- Onboard Core. Duo 1.66 GHz
- Provides 512KB battery-backup SRAM
- 2 x RS-232 and two RS-232/422/485 ports with automatic flow control
- 2 x 10/100/1000Base-T Ethernet
- DVI-I supports dual display
- Audio with Mic in, Line in, Line out
- Two USB and one type I/II PC Card
- PCI-104 expansion
- Windows XP Embedded SP2 ready solution
- Supports SATA -1 HDD and external eSATA devices

1 PAC & Software
2 BAS
3 UNO
4 RS-485 I/O
5 Ethernet I/O
6 TPC
7 IPPC
8 FPM
9 AWS
10 Plug-in I/O
11 CompactPCI
12 Signal Conditioning
13 USB I/O
14 Motion Control I/O
15 Ethernet Switch
16 EDG
17 ICOM

Introduction

UNO-2182 is a high-performance Core Duo grade controller that supports PCI-104 expansion, serial communication ports and several other networking interfaces. UNO-2182 supports Windows XP Embedded OS, 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 and speed up your system development with an application ready platform that can provide a rich networking interface to fulfill diverse requirements.

Specifications

General

- **Certifications** — CE, FCC class A, UL
- **Dimensions (W x D x H)** — 255 x 152 x 69 mm (10" x 6.0" x 2.7")
- **Enclosure** — Aluminum
- **Mounting** — Wall
- **Power Consumption** — 35 W (Typical)
- **Power Input** — Min. 48 W (9 ~ 36 V_{DC}) (e.g +24 V @ 2 A), ATX
- **Weight** — 2.4 kg
- **OS Support** — Windows XP Embedded, Windows 2000/XP

System Hardware

- **CPU** — Core Duo 1.66 GHz
- **Memory** — 512 MB/1 GB DDR2 SDRAM
- **Indicators** — LEDs for power, IDE, alarm for RAM backup battery
- **Battery Backup RAM** — 512KB
- **Keyboard/Mouse** — 1 x PS/2
- **PC Card** — 1 x PC Card slot, supports CardBus (Card-32) Card and 16-bit (PCMCIA 2.1/JEIDA4.2) card Supports +5V, +3.3V
- **PCI-104** — PCI-104 slot
- **Storage** — SSD: 1 x external type I/II CompactFlash® slot HDD: 1 x standard 2.5" HDD (PATA or SATA)
- **Display** — DVI-I supports DVI and VGA for dual display
- **Audio** — Mic in, Line in, Line out
- **SATA** — 1 x internal, 1 x external eSATA
- **Watchdog Timer** — Programmable

Communications

- **Serial Ports** — 2 × RS-232, 2 x RS-232/422/485 with DB9 connectors Automatic RS-485 data flow control
- **Serial Port Speed** — RS-232: 50 ~ 115.2 kbps RS-422/485: 50 ~ 921.6 kbps (Max.)
- **LAN** — 2 x 10/100/1000Base-T RJ45 ports
- **USB Ports** — 2 x USB, UHCI, Rev. 2.0 compliant

Environment

- **Humidity** — 95% @ 40° C (non-condensing)
- **Operating Temperature** — -20 ~ 60° C (-4 ~ 140° F) @ 5 ~ 85% RH.
- **Shock Protection** — IEC 68 2-27 CompactFlash: 50 G @ wall mount, half sine, 11 ms HDD: 20 G @ wall mount, half sine, 11 ms
- **Vibration Protection** — IEC 68 2-64 (Random 1 Oct./min, 1hr/axis.) CompactFlash: 2 Grms @ 5 ~ 500 Hz, HDD: 1 Grms @ 5 ~ 500 Hz

Ordering Information

- **UNO-2182-D11E** — C-D 1.66 G, 512 MB RAM UNO-2182
- **UNO-2182-D12E** — C-D 1.66 G, 1 GB RAM UNO-2182

Accessories

- **UNO-PCM22-AE** — 2 x PC/104 expansion kit
- **UNO-FPM21-AE** — UNO& FPM integration kit

UNO-2050E

AMD GX2 UNO w/2 x LAN, 4 x COM, 16 DI/O

NEW
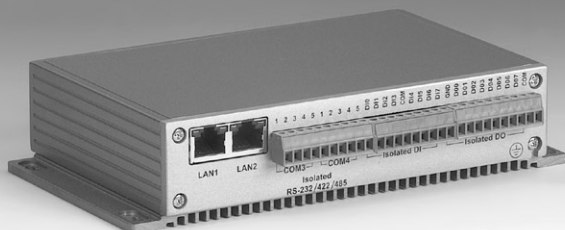
Features

- Onboard GX2 400 MHz
- Two RS-232 and two-isolated RS-232/422/485 with automatic flow control
- Two 10/100 Base-T RJ-45 port
- Isolated 8-ch DI and 8-ch DO with counter and timer
- Windows® CE 5.0, Windows XP Embedded SP2, and Linux ready solution

RoHS COMPLIANT 2002/95/EC   CE FCC

Introduction

UNO-2050E is an X86-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-2050E is an ideal solution for embedded controllers.

UNO-2050E 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-2050E allows the addition of an external 2.5" HDD using Advantech's UNO HDD expansion 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-2050E is the perfect embedded application ready platform that can shorten development time and offer a rich networking interface to fulfill diverse application requirements.

Specifications

General

- **Dimensions (W x D x H)** 188.8 x 106.5 x 35.5 mm (7.5" × 4.2" × 1.4")
- **Enclosure** Aluminum
- **Mounting** Wall, DIN 35 rail
- **Power Consumption** 15 W (Typical)
- **Power Input** 9 ~ 36 V_{DC} (e.g +24 V @ 1 A) (Min. 24 W), AT
- **Weight** 0.8 kg
- **OS Support** Windows XP Embedded, Windows 2000 & XP, Windows CE 5.0, Linux

System Hardware

- **CPU** AMD GX2 400 MHz
- **Memory** 256 MB DDRRAM on board
- **Indicators** LEDs for power, IDE, programmable diagnostic LED, and one programmable buzzer.
- **Keyboard/Mouse** 1 x PS/2
- **Storage** SSD: 1 x internal type I/II CompactFlash® slot
  HDD: expansion kit for one standard 2.5" HDD (Optional)
- **VGA** DB15 VGA connector
- **Watchdog Timer** Programmable

Communications

- **Counter/Timer** 2 x 16-bit: 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: 100/10/1 kHz,100 Hz
- **Digital Inputs** 8 ch. wet contact after 8 ch.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.

- **Digital Outputs** 8 ch. 2,000 V_{DC} isolation and 200 mA max/channel sink current. Keeps output status after system hot reset. 5 ~ 40 V_{DC} output range and 10 kHz speed
- **LAN** 2 x 10/100Base-T with RJ-45 port
- **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} (EFT) surge
  protection & 2000 V_{DC} isolation
- **Serial Port Speed** RS-232: 50 ~ 115.2 kbps (COM1/COM2)
  50 ~ 230.4 kbps (COM3/COM4)
  RS-422/485: 50 ~ 921.6 kbps (Max.)

Environment

- **Humidity** 95% @ 40° C (non-condensing)
- **Operating Temperature** -10 ~ 55° (14 ~ 131° F)
- **Shock Protection** IEC 68 2-27
  CompactFlash: 20 G @ DIN, half sine, 11 ms, 50 G @ Wall/Panel, half sine, 11 ms
- **Vibration Protection** IEC 68 2-6
  CompactFlash: 2 Grms @ sine, 5 ~ 500 Hz, 1 Oct./min, 1hr/axis.
  HDD: 1 Grms @ sine, 12 ~ 300 Hz, 1 Oct./min, 1hr/axis.

Ordering Information

- **UNO-2050E-IDA0E** GX2 400 M, 256 MB RAM UNO-2050E

Accessories

- **UNO-HD20-AE** UNO-2000 HDD expansion kit
- **UNO-FPM21-AE** UNO & FPM integration kit
- **UNO-ADAM42-AE** UNO-2000 & ADAM integration kit

ADVANTECH **Embedded Automation Computers**

1 PAC & Software
2 BAS
3 UNO
4 RS-485 I/O
5 Ethernet I/O
6 TPC
7 IPPC
8 FPM
9 AWS
10 Plug-in I/O
11 CompactPCI
12 Signal Conditioning
13 USB I/O
14 Motion Control I/O
15 Ethernet Switch
16 EDG
17 ICOM

UNO-2052E

AMD GX2 UNO w/2 x CAN, LAN, 8 DI/O

NEW

Features

- Onboard GX2 400 MHz
- Provides two CAN interfaces
- Provides one 10/100Base-T RJ-45 port and one USB port
- Isolated 8-ch DI/O and 2-channel AI
- Windows® CE 5.0, Windows XP Embedded SP2, and Linux ready solution

Windows Embedded   RoHS COMPLIANT 2002/95/EC   CE FCC

Introduction

The Advantech UNO-2052E is a X86-grade platform that offers dual CAN 2.0B interfaces, digital I/O and thermcouple input functions. Combined with CAN 2.0B interfaces, the UNO-2052E is an ideal solution for automobile and logistics applications. UNO-2052E 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-2052E allows the addition of an external 2.5" HDD using Advantech's UNO HDD expansion 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-2052E is the perfect embedded application-ready-platform to shorten development time and offer a rich networking interface to fulfill diverse application requirements.

Specifications

General

- **Dimensions (W x D x H)** 188.8 x 106.5 x 35.5 mm (7.5" × 4.2" × 1.4")
- **Enclosure** Aluminum
- **Mounting** Wall, DIN 35 rail
- **Power Consumption** 15 W (Typical)
- **Power Input** 9 ~ 36 V_{DC} (e.g +24 V @ 1 A) (Min. 24 W), AT
- **Weight** 0.8 kg
- **OS Support** Windows XP Embedded, Windows 2000 & XP, Windows CE 5.0, Linux

System Hardware

- **CPU** AMD GX2 400 MHz
- **Memory** 256 MB DDRRAM
- **Indicators** Power LED, IDE LED, one programmable diagnostic LED and buzzer
- **Keyboard/Mouse** 1 x PS/2
- **Storage** SSD: 1 x internal type I/II CompactFlash® slot HDD: expansion kit for one standard 2.5" HDD (Option)
- **VGA** DB15 connector
- **Watchdog Timer** Programmable

Communications

- **CAN** 2 x isolated CAN 2.0B interfaces CAN controller: SJA-1000 CAN transceiver: 82C250
- **Digital Inputs** 4 ch. 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 with dry contact: Logic level 0: Close to GND, Logic level 1: Open Digital input levels with wet contact: Logic level 0: +2 V max, Logic level 1: +4 V ~ +50 V

- **Digital Outputs** 4 ch. 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
- **LAN** 1 x 10/100Base-T with RJ-45 port
- **Serial Ports** 1 x standard RS-232
- **Serial Port Speed** RS-232: 50 ~ 115.2 kbps
- **Thermocouple Inputs** 2 ch. input type: Thermocouple: JKTE 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
- **USB Ports** 1 x USB port, OpenHCI, Rev. 1.1 compliant

Environment

- **Humidity** 95 % @ 40° C (non-condensing)
- **Ingress Protection** IP40
- **Operating Temperature** -10 ~ 55° (14 ~ 131° F)
- **Shock Protection** IEC 68 2-27 CompactFlash® : 20 G @ DIN, half sine, 11 ms, 50 G @ Wall/Panel, half sine, 11 ms
- **Vibration Protection** IEC 68 2-6 CompactFlash® : 2 Grms @ sine, 5 ~ 500 Hz, 1 Oct./min, 1hr/axis. HDD: 1 Grms @ sine, 12~300 Hz, 1 Oct./min, 1hr/axis.

Ordering Information

- **UNO-2052E-IDA0E** GX2 400 M, 256 MB RAM UNO-2052E

Accessories

- **UNO-HD20-AE** UNO-2000 HDD expansion kit
- **UNO-FPM21-AE** UNO & FPM integration kit
- **UNO-ADAM42-AE** UNO-2000 & ADAM integration kit

UNO-2053E

AMD GX2 UNO w/2 x LAN,2 x COM, Audio

NEW

Features

- Onboard GX2 400 MHz CPU
- 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
- Audio with Mic in, Line in, Line out
- Windows® CE 5.0, Windows XP Embedded SP2, and Linux ready solution

Introduction

The Advantech UNO-2053E is a X86-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-2053E is an ideal solution for data gateway applications. UNO-2053E 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-2053E allows the addition of an external 2.5" HDD using Advantech's UNO HDD expansion 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-2053E is a perfect embedded application-ready platform that can shorten your development time and offer a rich networking interface to fulfill diverse requirements.

Specifications

General

- **Dimensions (W x D x H)** 188.8 x 106.5 x 35.5 mm (7.5" × 4.2" × 1.4")
- **Enclosure** Aluminum
- **Mounting** Wall, DIN 35 rail
- **Power Consumption** 15 W (Typical)
- **Power Input** 9 ~ 36 V_{DC} (e.g +24 V @ 1 A) (Min. 24 W), AT
- **Weight** 0.8 kg
- **OS Support** Windows XP Embedded, Windows 2000 & XP, Windows CE 5.0, Linux

System Hardware

- **CPU** AMD GX2 400 MHz
- **Memory** 256 MB DDRRAM on board
- **Indicators** Power LED, IDE LED
- **Keyboard/Mouse** 1 x PS/2
- **Storage** SSD: 1 x internal type I/II CompactFlash® slot
  HDD: expansion kit for one standard 2.5" HDD (Option)
- **VGA** DB15 connector
- **Audio** Mic in, Line in, Line out
- **Watchdog Timer** Programmable

Communications

- **LAN** 2 x 10/100Base-T RJ-45 ports
- **PC Card** 1 x 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

- **Serial Ports** 2 x standard RS-232
- **Serial Port Speed** RS-232: 50 ~ 115.2 kbps
- **USB Ports** 2 x USB ports, USB OpenHCI, Rev. 1.1 compliant

Environment

- **Humidity** 95 % @ 40°C (non-condensing)
- **Ingress Protection** IP40
- **Operating Temperature** -10 ~55° C (14 ~ 131° F)
- **Shock Protection** IEC 68 2-27
  CompactFlash®: 20 G@DIN, half sine, 11 ms, 50 G @ Wall/Panel, half sine, 11 ms
- **Vibration Protection** IEC 68 2-6
  CompactFlash: 2 Grms @ sine, 5 ~ 500 Hz, 10 ct./min, 1hr/axis
  HDD: 1 Grms @ sine, 12 ~ 300 Hz, 10 ct./min, 1hr/axis

Ordering Information

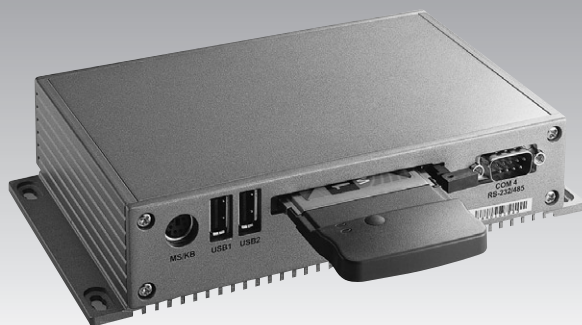- **UNO-2053E-IDA0E** GX2 400 M, 256 MB RAM UNO-2053E

Accessories

- **UNO-HD20-AE** UNO-2000 HDD expansion kit
- **UNO-FPM21-AE** UNO & FPM integration kit
- **UNO-ADAM42-AE** UNO-2000 & ADAM integration kit

ADVANTECH **Embedded Automation Computers**

UNO-2059E

AMD GX2 UNO w/4 x COM, LAN, PC Card

NEW

Features

- Onboard GX2 400 MHz
- 2 x RS-232/485, 2 x RS-232/422/485 with automatic flow control
- 1 x 10/100Base-T RJ-45 port
- 2 x USB ports and 1 x type I/II PC Card
- One programmable diagnostic LED and buzzer
- Windows® CE 5.0, Windows XP Embedded SP2, and Linux ready solution

Windows Embedded   RoHS COMPLIANT 2002/95/EC   CE FCC

Introduction

Advantech's UNO-2059E is an X86-grade platform that offers USB and PC card interfaces to fulfill I/O device expansion needs. In addition, it also offers two RS-232/485 and two RS-232/422/485 communication ports with automatic flow control functionality. The UNO-2059E is an ideal compact solution for large computing and communication requirements.

UNO-2059E 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-2059E allows the addition of an external 2.5" HDD using Advantech's UNO HDD expansion 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.

Specifications

General

- **Dimensions (W x D x H)** 188.8 x 106.5 x 35.5 mm (7.5" × 4.2" × 1.4")
- **Enclosure** Aluminum
- **Mounting** Wall, DIN 35 rail
- **Power Consumption** 15 W (typical)
- **Power Input** 10 ~ 48 V_{DC} (e.g +24 V @ 1 A) (Min. 24 W), AT
- **Weight** 0.8 kg
- **OS Support** Windows XP Embedded, Windows 2000 & XP, Windows CE 5.0, Linux

System Hardware

- **CPU** AMD GX2 400 MHz
- **Memory** 256 MB DDRRAM on board
- **Indicators** Power LED, IDE LED, one programmable diagnostic LED and buzzer
- **Keyboard/Mouse** 1 x PS/2
- **Storage** SSD: 1 x internal type I/II CompactFlash® slot
  HDD: expansion kit for one standard 2.5" HDD (Option)
- **VGA** DB15 connector
- **Watchdog Timer** Programmable

Communications

- **Serial Ports** 2×RS-232/485, 2xRS-232/422/485
  - Automatic RS-485 data flow control
  - RS-422/485 surge protection up to 2,000 V_{DC}
- **Serial Port Speed** RS-232: 50 ~ 230.4 kbps;
  RS-422/485: 50 ~ 921.6 kbps (Max.)
- **USB Ports** 2 x USB ports, OpenHCI, Rev. 1.1 compliant
- **LAN** 1 x 10/100Base-T RJ-45 port

- **PC Card** 1 x 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 Power

Environment

- **Humidity** 95 % @ 40° C (non-condensing)
- **Ingress Protection** IP40
- **Operating Temperature** -10 ~ 55° C (14 ~ 131° F)
- **Shock Protection** IEC 68 2-27
  CompactFlash®: 20 G @ DIN, half sine, 11 ms, 50 G @ Wall/Panel, half sine, 11 ms
- **Vibration Protection** IEC 68 2-6
  CompactFlash®: 2 Grms @ sine, 5 ~ 500 Hz, 1 Oct./min, 1hr/axis.
  HDD: 1 Grms @ sine, 12 ~ 300 Hz, 1 Oct./min, 1 hr/axis.

Ordering Information

- **UNO-2059E-IDA0E** GX2 400 M, 256 MB RAM UNO-2059E

Accessories

- **UNO-HD20-AE** UNO-200 HDD expansion kit
- **UNO-FPM21-AE** UNO & FPM integration kit
- **UNO-ADAM42-AE** UNO-2000 & ADAM integration kit

UNO-1019

NEW

Features

- Intel® XScale® PXA-255 200 MHZ Processor
- 64 MB SDRAM on board, 16 MB Flash
- 2 x RS-232, 2 x RS-232/422/485 Serial Ports
- Dual 10/100 Mbps Ethernet
- 1 x CompactFlash®
- Windows® CE.NET Ready Platform
- Included Remote Display for Easy Configuration
- DIN-rail and Wallmounting Options

Windows Embedded   RoHS COMPLIANT 2002/95/EC   CE FCC

Introduction

Advantech's UNO-1019 is a RISC-grade embedded platform that offers 2 LANs, 4 serial ports and 4 Digital Inputs/Outputs and a CompactFlash card. UNO-1019 also comes with Windows CE.NET OS, offering a pre-built image onboard. Additionally, UNO-1019 operates under 0 ~ 70°C, and its small size and lightweight design allows it to be installed in tight industrial environments. UNO-1019 is an excellent communication gateway for converting communication protocosl, I/O control, and data storage in the industrial field.

Specifications

General

- **Certifications**   CE, FCC Class A
- **Dimensions (W x H x D)**   46 x 162 x 126 mm (1.8" x 6.4" x 5")
- **Enclosure**   ABS+PC with solid mounting hardware
- **Mounting**   DIN-rail, wallmount
- **Power Consumption**   8.5 W
- **Power Input**   10 ~ 30 V_{DC} (13 W), AT
- **Weight**   400 g

System Hardware

- **CPU**   32-bit Intel XScale PXA255 200 MHz
- **Memory**   64 MB SDRAM
- **Indicators**   Power, Serial (Tx, Rx), 3 x User Defined LEDs
- **Storage**   Onboard 16 MB Flash Memory
- **Other**   Realtime clock, Watchdog timer

System Software

- **Operating System**   Windows CE.NET 4.2 (Pre-installed on flash)
- **Remote Display**   Scope Remote Display

Communications

- **Serial Ports**   2 x RS-232, 2 x RS-232/422/485 with DB9 connectors, Automatic RS-485 data flow control
- **Serial Port Speed**   RS-232: 300 ~ 115.2 kbps
                              RS-422/485: 300 ~ 115.2 kbps
- **LAN**   2 x 10/100 Base-T RJ-45 ports

Digital Input/Digital Output

- **Digital Inputs**   2 x Digital Inputs
                              Dry contact
                                      Logic level 0 : Open
                                      Logic level 1 : Close
                              Wet contect
                                       Logic level 0: +3 V max
                                      Logic level 1: +10 V_{DC} to 30 V_{DC}
- **Digital Outputs**   2 x Digital Outputs
                              Open Collect to 30 V
                              200 mA max Load, power dissipation 450 mW

Environment

- **Operating Temperature**   0 ~ 70° C (32 ~ 158° F)
- **Storage Temperature**   -20 ~ 80° C (-4 ~ 176° F)
- **Operating Humidity**   20 ~ 95% (non-condensing)
- **Storage Humidity**   0 ~ 95% (non-condensing)

Ordering Information

- **UNO-1019ACE-A1E**   Intel XScale UNO w/2 x LAN, 4 x COM, CF Card, Windows CE .NET 4.2

ADVANTECH   **Embedded Automation Computers**

Accessories

UNO-FPM21

UNO & FPM integration kit

UNO-FPM21 could provide excellent integration of UNO and FPM models which could help installation easier and save more space in filed.

Features

- Powerful and flexible computing
- Remote Display
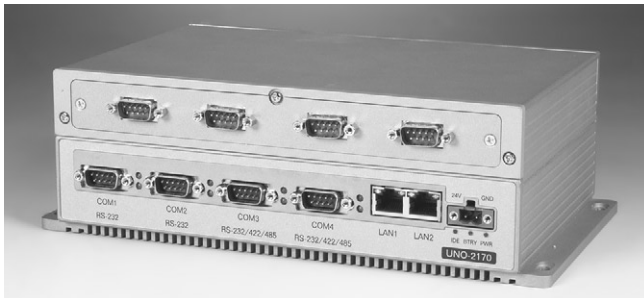- Dimensions: 271 x 163 x 12 mm (W x H x D)

Supported Model List

- **UNO model**　　　　All UNO-205XE series and UNO-21XX series
- **FPM model**　　　　All FPM 12", 15", 17", 19" model

Ordering Information

- **UNO-FPM21-AE**　　　　UNO&FPM integration kit

UNO-PCM

UNO-2100 series PC/104 expansion kit

- Dimensions: 228 x 32 x 152 mm (W x H x D)

Supported Model List

- **UNO-2160, UNO-2170**
  This kit include a solid panel, 2*DB9 panel and 4*DB9 panel

Ordering Information

- **UNO-PCM21-AE**　　　　UNO-2160 and UNO-2170 series 2 x PC/104 expansion kit

- Dimensions: 228 x 32 x 152 mm (W x H x D)

Supported Model List

- **UNO-2171, UNO-2172, UNO-2176, UNO-2182**
  This kit include a solid panel, 2*DB9 panel and 4*DB9 panel

Ordering Information

- **UNO-PCM22-AE**　　　　2 x PC/104 expansion kit

1 PAC & Software
2 BAS
3 UNO
4 RS-485 I/O
5 Ethernet I/O
6 TPC
7 IPPC
8 FPM
9 AWS
10 Plug-in I/O
11 CompactPCI
12 Signal Conditioning
13 USB I/O
14 Motion Control I/O
15 Ethernet Switch
16 EDG
17 ICOM

Accessories & Dimensions

UNO-ADAM42

UNO-2000 & ADAM integration kit

UNO-ADAM42 could provide good integration for UNO-2000 series and 2 pieces ADAM-4000 series, which could save installation space and add UNO's IO interface flexibility.

Features

- Versatile and Rich I/O interface
- Flexible solution
- Dimensions: 164 x 35 x 106 (W x H x D)

Supported Models

- **UNO**   UNO-2050E, UNO-2052E, UNO-2053E, UNO-2059E
- **ADAM**   ADAM-4017(+), ADAM-4018(+), ADAM-4050, ADAM-4052, ADAM-4053, ADAM-4060, ADAM-4080, ADAM-4117, ADAM-4118

To request information about integration with other ADAM models, please contact your local Advantech sales rep.
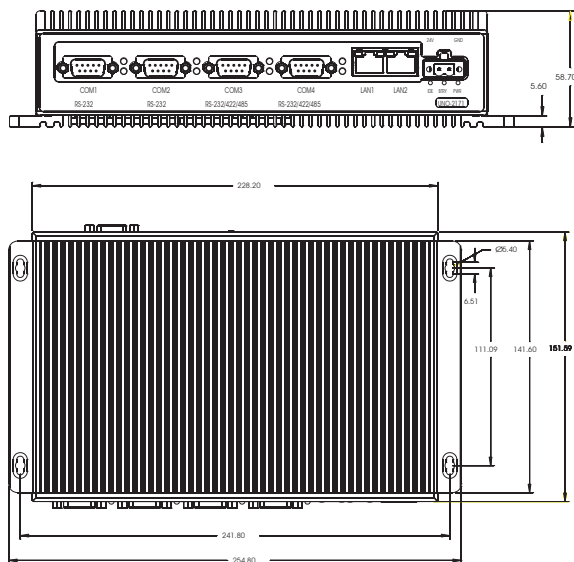
Packing List

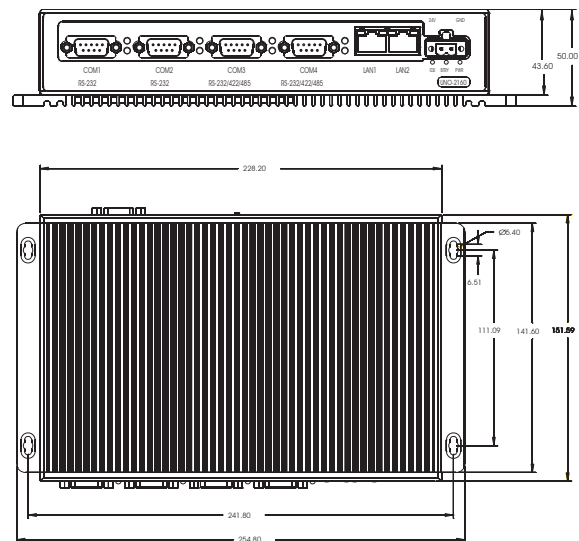- Extend Chassis, 2PCS female DB9 to 2pins 35cm cable

Ordering Information

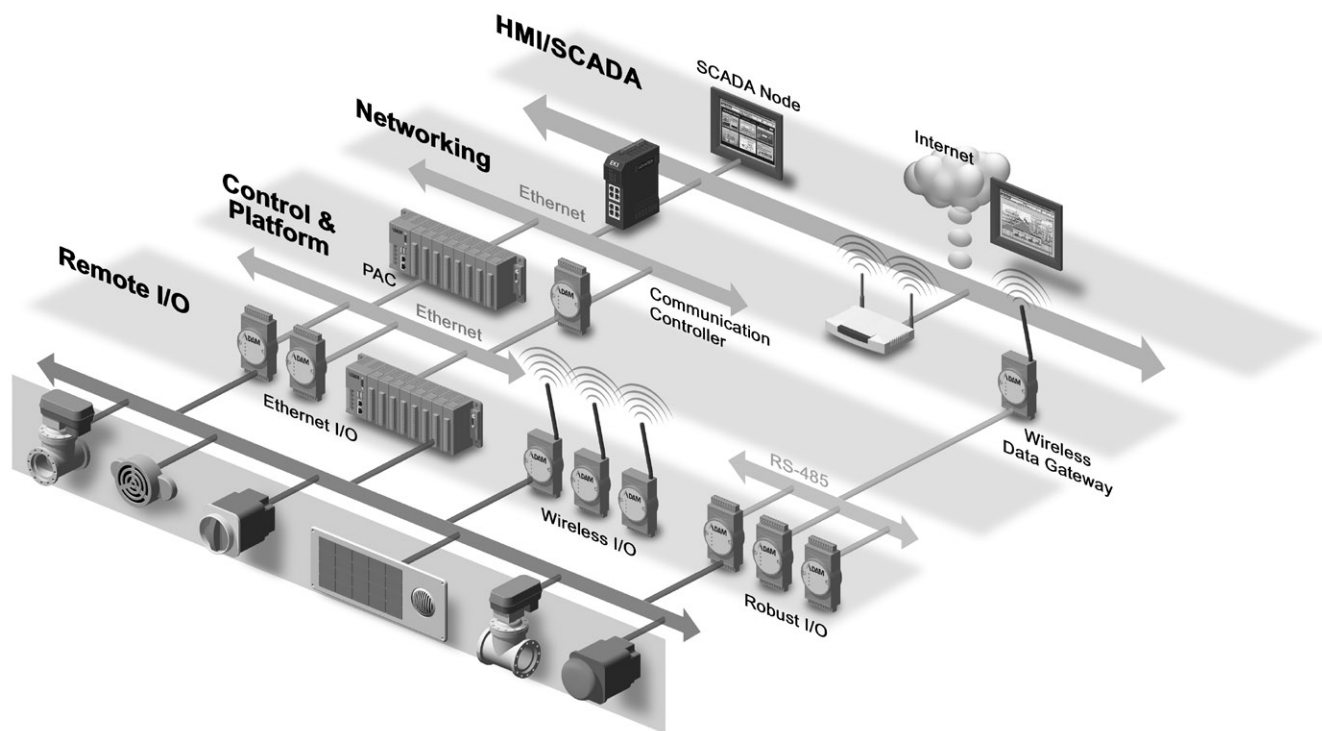- **UNO-ADAM42-AE**   UNO-2000 & ADAM integration kit

Dimensions

UNO-2171, UNO-2176

UNO-2160, UNO-2170

ADVANTECH   **Embedded Automation Computers**

Streamline Your Automation System with M2M Technology

Boundless Integration with the ADAM Remote I/O Series

In order to meet the integration requirements of Environmental Monitoring Systems and Facility Management Systems, the ADAM Remote I/O Series offers a diversified product range, powerful networking and communication capabilities, rich analog measurements with noise immunity and wide operating temperature. The EFMS Solution Architecture is shown above, and the following is a product outline of the ADAM Remote I/O Series.

Programmable Communication Controllers

ADAM-4500 Series are designed with a 10/100 Mbps Ethernet port. The Ethernet-enabled features include a built-in HTTP Server, FTP Server, FTP Client function, Email Alarm function and TCP/UDP connection functions. The HTTP Server will let authorized users to monitor ADAM-4500 Series I/O status by Internet Explorer via Internet. The FTP Server and Client can be used for remote maintenance. The Email Alarm function of ADAM-4500 Series can send email to pre-defined users for alarm message. All features are very easy to use and ready-to-use sample programs are available.

ADAM-6500 Series are fully functional Ethernet-enabled controllers for industrial automation and control. It provides an ideal environment to develop applications converting RS-232/485 devices/equipment data to the Ethernet/Internet world with minimum effort. Their built-in Windows CE.NET operating system lets users run new programs produced in Microsoft embedded VC++. The Windows environment also includes a web server to allow the designer to develop web-enabled applications.

Wireless LAN I/O

ADAM-6000W Series brings wireless LAN communication to your network. The hardware design of the modules is based on ADAM-6000 Series but the wireless LAN interface has replaced the RJ-45 Ethernet port. With support for the common IEEE802.11b, these modules can be accessed on your wireless LAN without any hardwiring. It is the best choice for environments with wiring limitations, or expensive wiring requirements.

RS-485 I/O

The ADAM-4000 series modules are compact, versatile sensor-to-computer interface units designed specifically for reliable operation in harsh environments. Their built-in microprocessors, encased in rugged industrial grade plastic, independently provide intelligent signal conditioning, analog I/O, digital I/O, LED data display and RS-485 communication.

ADAM-4100 series is designed to endure more critical environments than the earlier ADAM-4000 series. This makes them suitable for more widespread applications. ADAM-4100 series supports a broad operating temperature range of -40 to +85° C. Higher Noise Immunity In order to prevent noise from affecting your system, the ADAM-4100 series has been designed with more protection to counteract these effects.

Ethernet I/O

The ADAM-6000 series Ethernet-enabled data acquisition and control module works as an Ethernet I/O data processing center. This product line is not only a standard I/O, but also an intelligent system designed with local control functions and a Modbus/TCP standard for users to easily develop various applications over Ethernet. Their powerful onboard intelligence makes it well suited to SCADA and stand-alone control applications.
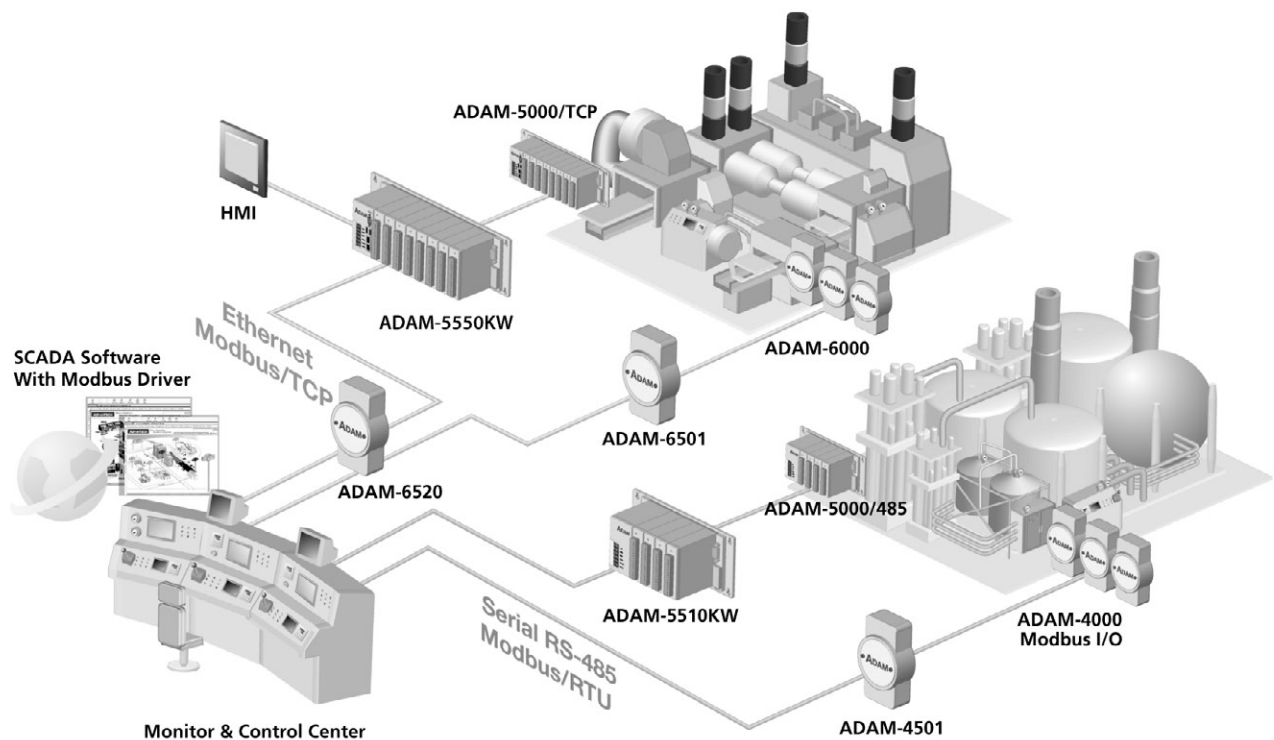
Software Support for the ADAM Remote I/O Series

Modbus Protocol

Since Modbus is one of the most popular communication standards at the world, Advantech has applied it as the major communication protocol for ADAM Remote I/O Series. The Remote I/O Series supports the Modbus/RTU for RS-485 I/O and Modbus/TCP for Ethernet I/O. Featuring the Modbus support capacity, the ADAM Remote I/O Series becomes universal remote I/O modules, which work with any Modbus system. The HMI server or controller can read/write data via standard Modbus commands instead of ADAM ASCII codes.

ADAM.NET Class Library

ADAM.NET Class Library is designed for Remote I/O series modules. The supported operating systems include Windows 98/XP/2000, Windows CE, and Windows Mobile. Therefore, it can be used on various platforms including IPC and PDA. The example programs are ready for C# and VB.NET. If graphic controls are needed in the application, there is also an advanced version of ADAM.NET Class Library which is bundled with 8 graphic controls.