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Embedded Automation Computers: UNO-1000, 2000, 3000 & 4000 Series

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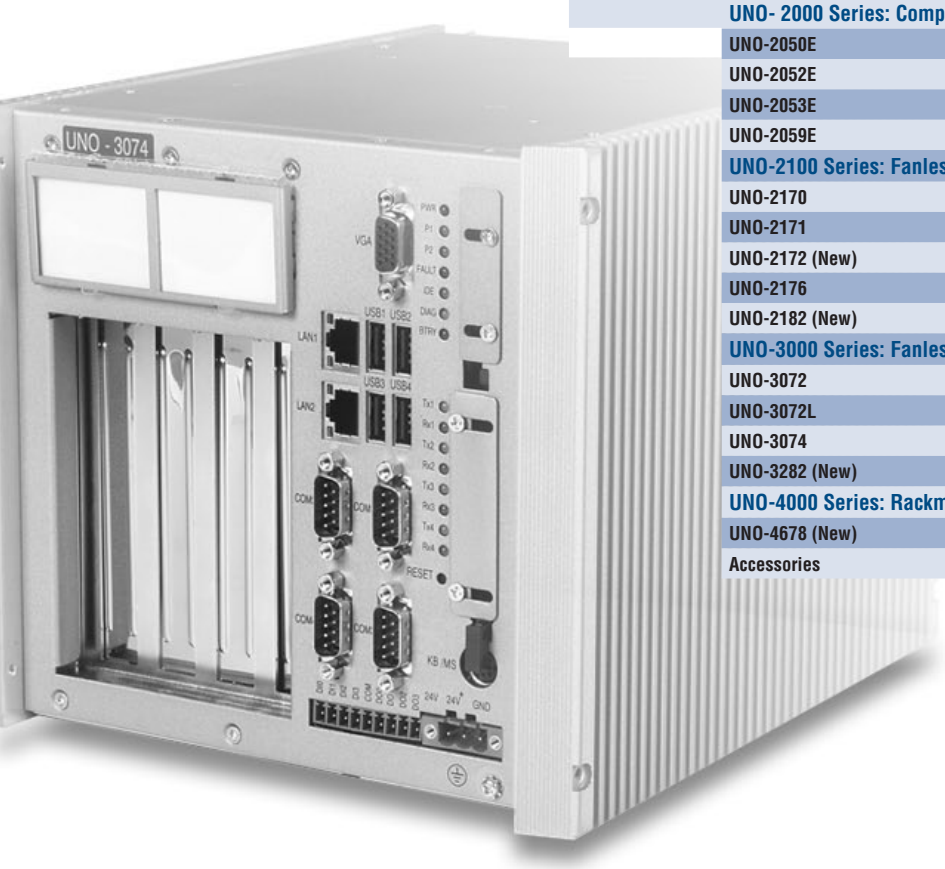
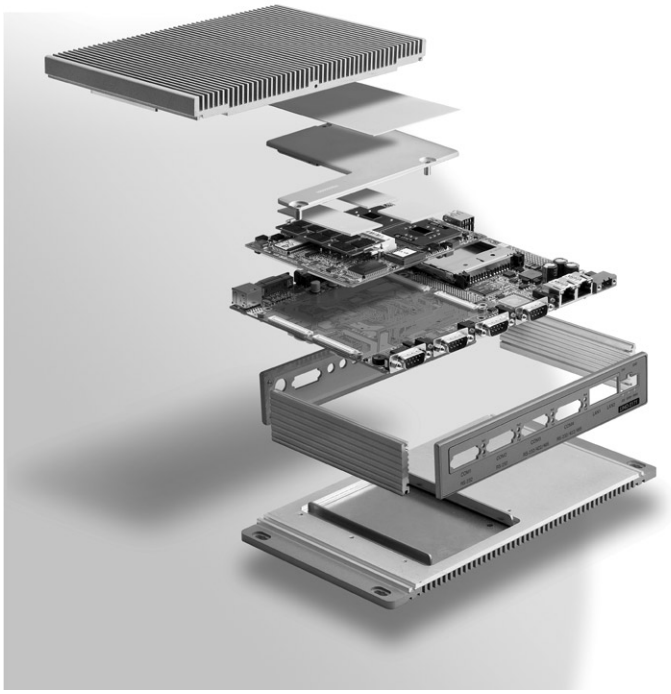


UNO Series Embedded Automation Computers

Introduction

Advantech's UNO series of Embedded Automation Computers are designed to fulfill the needs of mission critical automation applications. Their embedded design, industrial automation features and advanced computer technology deliver robustness, reliability and flexibility to satisfy customers who are looking for a rugged & compact computing platform with an industrial design and built-in I/O for diverse automation applications.

Leveraging field-approved and worldwide accepted real-time OS technology, Advantech's UNO series provides Windows CE, Windows XP Embedded and Embedded Linux ready solutions and supports several standard networking interfaces, such as Ethernet, RS-232/422/485, onboard I/O lines, PC cards, CANbus and more. Because of its open architecture, great expansion capability and reliable fanless, cable-less and diskless design, Advantech's UNO series is an ideal platform to implement diverse custom applications in power/energy, transportation, machine automation, factory automation, building automation, facility monitoring system, environment monitoring vertical markets.



Features

Fanless Design

The UNO series are robust computers without rotating parts, such as a CPU fan, system fan, power supply fan or HDD. This concept significantly increases reliability, extends MTTR, and extremely reduces maintenance efforts. Therefore, you don't need to worry about a CPU cooler or HDD failure issue anymore, even in dusty environments.

No Internal Cabling

Unlike general BOX PC designs where cables are used for wiring between connectors and CPU boards, connectors on the UNO series are soldered directly on the PCB. Therefore, there is no internal cabling inside UNO chassis. This makes UNO much more reliable than general BOX PC's in harsh environments

Industrial-grade Power Design

UNO's are designed to accept wide DC power input (ex. 9 ~ 36 V_{DC}) in factory floors. In addition, UNO also features power reversal protection that prevents system damage when power inputs are reversed.

Wide Operating Temperature Range

UNO series supports wide operating temperature through selecting low-voltage CPU and industrial-grade components as well as associated thermal design that meets critical industrial-grade applications.

Battery-backup Memory

To keep critical data alive when system power is lost, UNO is equipped with onboard battery-backup memory. Onboard battery supplies power to keep memory operating all the time. In addition, battery-backup memory can also acts as temporary runtime data buffer that helps reduce CF's access times dramatically.

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 1 Gbps. The PCMCIA expansion with WLAN/3G/GPRS/GSM 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.

WinCE, XPe and Embedded Linux 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 6.0 Windows XP Embedded SP2 Feature Pack 2008 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 11, DirectX 9.0c), browsing (Internet Explorer 7.0) technologies, security, Remote Desktop Protocol 6.0 and File-Based Write Filter (EWF). 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. Advantech offers Embedded Linux installation CD for x86-based UNO products and supports Fedora Core 3 and RedHat 9.0 kernels. In the Embedded Linux, it features X Windows, browsing (Dillo), PDF viewer (XPDF), FTP (GFTP), IPv6 and software management (RedHat Package Manager) in 50MB image size.

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 ▪ 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 6.0 for Windows CE ▪ Scripting (Microsoft Jscript® 5.6, VBScript 5.6)
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)

UNO Series Selection Guide

Model Name	UNO-1019	UNO-1150	UNO-1170	UNO-1170E	UNO-2050E	UNO-2052E	UNO-2053E	UNO-2059E	UNO-2170
CPU	XScale PXA 255 200 MHz	GX2-400 MHz	Celeron M 1.0 GHz, Pentium M 1.4	Celeron M 1.0 GHz, Pentium M 1.4	GX2-400 MHz				Celeron M 600 MHz, Celeron M 1.0 GHz
Onboard RAM	64 MB SDRAM	256 MB DDR SDRAM	512 MB/1 GB DDR SDRAM	512 MB/1 GB DDR SDRAM	256 MB DDR SDRAM				256 MB/512 MB DDR SDRAM
Battery-Backup SRAM	-	-	512 KB	512 KB	-				512 KB
Display/Mouse/ Keyboard	-	VGA							
Audio	-	Yes	Yes	Yes	-	-	Yes	-	-
Serial Ports	2 x RS-232 2 x RS-232/422/485	1 × RS-232, 2 x RS-232/422/485 with DB9 connectors	2 x RS-232, 1 x RS-232/422/485 with DB9 connectors	2 x RS-232, 1 x RS-232/422/485 with DB9 connectors	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-232/485 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/ 100 Base-T	2 x 10/ 100 Base-T	2 x 10/ 100 Base-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	-	Two	Four	Four	-	One	Two	Two	Two
PC Card Slots	-	-	-	-	-	-	One	One	One
Printer Ports	-	-	-	-	-	-	-	-	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	-	-	-	-
Watchdog Timer	Yes								
CompactFlash Slots	One External	One internal	One external	One external	One internal				
2.5" HDD Expansion	-	No	No	Yes	Option				Yes
Operating Systems	Windows CE 4.2 & 5.0	Windows XP Embedded, Windows CE 6.0, Windows 2000/XP, Linux	Windows XP Embedded, Windows CE 6.0, Windows 2000/XP, Linux	Windows XP Embedded, Windows CE 6.0, Windows 2000/XP, Linux	Windows XP Embedded, Windows CE 5.0 & 6.0 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 @ IEC 68 section 2-64, sine, 5-500 Hz, 1 Oct./min, 1hr/axis.	2G w/CF @ IEC 68 section 2-64, sine, 5-500 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.	2 G w/CF, 1 G w/HDD @ IEC 68 section 2-6, sine, 12 ~ 300 Hz, 1 Oct./min, 1hr/axis.				2 G w/CF, 0.5 G w/HDD @ IEC 68 section 2-64, sine,5 ~ 500 Hz, 1 Oct./min, 1hr/axis.
Anti-Shock	-	50 G w/CF @ IEC 68 section 2-27, half sine, 11 ms	50 G w/CF @ IEC 68 section 2-27, half sine, 11 ms	50G w/CF, 20G w/HDD @ IEC 68 section 2-27, half sine, 11 ms	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	-10 ~ 60° C	-10 ~ 60° C	-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 (typical)	24 W (typical)	24 W (typical)	15 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	Min. 48 W +24 V @ 2 A power input	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")	85 x 155 x 140 mm (3.4" x 6.1" x 5.6")	85 x 155 x 140 mm (3.4" x 6.1" x 5.6")	110 x 155 x 140 mm (4.4" x 6.1" x 5.6")	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	1.6 KG	1.6 KG	2.0 KG	0.8 kg				1.6 kg

Model Name	UNO-2171	UNO-2172	UNO-2176	UNO-2182	UNO-3072L	UNO-3072	UNO-3074	UNO-3282	UNO-4678
CPU	Celeron M 1.0 GHz, Pentium M 1.4	Celeron M 1.0 GHz, Celeron M 1.5 GHz, Pentium M 1.6 GHz	Celeron M 1.0 GHz, Pentium M 1.4 GHz	Core 2 Duo 1.5 GHz	Celeron M 1.0 GHz, Celeron M 1.5 GHz	Pentium M 1.4 GHz	Pentium M 1.4 GHz, Pentium M 1.8 GHz	Core 2 Duo 1.5 GHz	Celeron M 1 GHz
Onboard RAM	512 MB/1 GB DDR SDRAM	512 MB/1 GB DDR2 SDRAM	512 MB DDR SDRAM	1 GB DDR2 SDRAM	512 MB/1 GB DDR SDRAM	512 MB DDR SDRAM	512 MB/1 GB DDR SDRAM	1 GB DDR2 SDRAM	512 MB DDR SDRAM
Battery-Backup RAM	512 KB	512 KB	512 KB	512 KB	-	512 KB			-
Display/Mouse/ Keyboard	VGA	DVI-I	VGA	DVI-I	VGA			VGA+ DVI-D	VGA
Audio	Yes	Yes	-	Yes	-	-	-	Yes	-
Serial Ports	2 x RS-232, 2 x RS-232/422/485 with DB9 connectors	2 x RS-232, 2 x RS-232/422/485 with DB9 connectors	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	2 x RS-232, 2 x RS-232/422/485 with DB9 connectors	2 x RS-232, 2 x RS-232/422/485				2 x isolated RS-232, 6 x isolated RS-232/422/485 with screw terminal
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			2 x 10/100/ 1000Base-T	3 x 10/100 Base-T
USB Ports	Two	Two	Two	Two	Four			Four	Two
PC Card Slots	One	One	-	One	-	One		-	-
Printer Ports	-							-	-
PC/104 Expansion	PC/104+	PCI-104	PC/104	PCI-104	-			-	PC/104
PCI Expansion	-				Two		Four	Two	-
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 internal	One internal	One internal	One internal	One internal, One external		One internal, One external	One internal
2.5" HDD Expansion	Yes								
Operating Systems	Windows XP Embedded, Windows CE 5.0 & 6.0 Windows 2000/XP, Linux	Windows XP Embedded, Windows 2000/XP	Windows XP Embedded, Windows CE 5.0 & 6.0 Windows 2000/XP, Linux	Windows XP Embedded, Windows 2000/XP	Windows XP Embedded, Windows CE 5.0 & 6.0 Windows 2000/XP, Linux			Windows XP Embedded, Windows 2000/XP/ Vista, Linux	Windows XP Embedded, Windows CE 5.0 & 6.0 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			Wall/Stand	Rack Mount
Anti-Vibration	2 G w/CF, 1 G w/HDD (for X and Y Axis), 1 G w/HDD @ IEC 68 section 2-64, sine, 5 ~ 500 Hz, 1 Oct./min, 1hr/axis	2 G w/CF, 1 G 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							20 G w/HDD @ IEC 68 section 2-27, half sine, 11ms	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}	9 ~ 36 V_{DC}	9 ~ 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		-20 ~ 60° C	-10 ~ 55° C
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			100 W	24 W (typical)
Power Requirement	Min. 48 W, +24 V @ 2 A power input						Min. 96 W, +24 V @ 4 A power input	Min. 120 W +24 V @ 5 A power input	Min. 48 W +24 V @ 2 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 179 mm/ 153 x 237 x 179 mm (5.5" x 9.3" x 7.0"/ 6" x 9.3" x 7.0")	140 x 237 x 179 mm (5.5" x 9.3" x 7.0")	180 x 237 x 177 mm/ 193 x 237x 177 mm (7.1" x 9.3" x 7.0"/ 7.6" x 9.3" x 7.0")	200 x 240 x 130 mm (7.9" x 9.4" x 5")	440 x 220 x 44 mm (17.3" x 8.6" x 1.7")
Weight	2.4 kg	3 kg	2.4 kg	3 kg	4.2 kg/6 kg	4.4 kg	5.0 kg/6.0 kg	5.5 Kg	3.6 kg

UNO-1019

Marvell® XScale UNO with 2 x LAN, 4 x COM, 4 x DI/O

Features

- Marvell® XScale PXA-255 200 MHz Processor
- 64 MB SDRAM on board, 32 MB Flash
- 2 x RS-232, 2 x RS-232/422/485 Serial Ports
- Dual 10/100 Mbps Ethernet
- 1 x CompactFlash® for DATA storage
- Windows® CE 5.0 Ready Platform and optional uClinux OS support
- Included Advantech DaigAnywhere for Easy Configuration
- DIN-rail and Wallmounting Options
- Onboard system & I/O LED indicators
- Supports Microsoft .NET compact framework 2.0 (WinCE 5.0 only)
- Fanless and no internal cabling design

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 slot. UNO-1019 also comes with Windows CE 4.2/5.0 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 Marvell XScale PXA255 200 MHz
- **Memory** Onboard 64 MB SDRAM
- **Indicators** Power, Serial (Tx, Rx), 3 x User Defined LEDs
- **Storage** Onboard 16 or 32 MB Flash Memory
  SSD: 1 x external type I/II CompactFlash® slot
- **Other** Realtime clock, Watchdog timer

System Software

- **Operating System** Windows CE 4.2/5.0
  (Pre-installed on onboard flash memory)
- **Remote Display** Advantech DiagAnywhere (optional)

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 contact
  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** Marvell XScale UNO w/2 x LAN, 4 x COM, Windows CE 4.2, onboard 16 MB Flash Memory
- **UNO-1019ACE-A2E** Marvell XScale UNO w/2 x LAN, 4 x COM, Windows CE 5.0, onboard 32 MB Flash Memory
- **PCLS-DIAGAW10** Advantech Remote Monitoring & Diagnosis Utility

UNO-1150

AMD GX2 UNO with 2 x LAN, 3 x COM, 2 x USB

Features

- Onboard AMD GX2 400 MHz
- One RS-232 and two RS-232/422/485 ports with automatic flow control.
- Two 10/100Base-T RJ-45 ports
- Two USB, audio and internal CompactFlash®
- Compact size, small foot print, saves space and front accessible for easy wiring
- DIN-rail design for easy installation in field cabinet
- Windows® CE 6.0, Windows XP Embedded, and Linux ready solution
- Onboard system & I/O LED indicators
- Fanless and no internal cabling design

Introduction

UNO-1150 is an DIN-rail Mounted embedded automation computer, which provides several serial communication ports and Ethernet interfaces.

UNO-1150 is designed as compact size, small foot print, and help to saves space and its front accessible is very convenient for wiring and DIN-rail design for easy installation in field cabinet. With rich OS and driver supports, such as Windows XP embedded, WinCE 6.0, and even embedded Linux. You can integrate your applications easily with an application ready platform that can provide a versatile function to fulfill diverse requirements.

Specifications

General

- **Certification** CE, FCC Class A, UL, CCC
- **Dimension (W x H x D)** 85 x 155 x 140 mm (3.4" x 6.1" x 5.6")
- **Enclosure** Aluminum + SECC
- **Mounting** DIN-rail, Wall
- **Power Consumption** 15 W (Typical)
- **Power Requirement** Min. 24 W (10 ~ 36 V_{DC}) (e.g +24 V @ 1 A), AT
- **Weight** 1.6 KG
- **OS Support** Windows XP embedded, Windows 2000 & XP, Windows CE 6.0, Linux

System Hardware

- **CPU** AMD GX2 400 MHz
- **Memory** Onboard 256 MB DDR SDRAM
- **Indicators** Power, IDE, LAN (Active, Status) and Serial (Tx, Rx)
- **Keyboard/Mouse** 1 x PS/2
- **Storage** SSD: 1 x internal type I/II CompactFlash® slot
- **VGA** DB15 VGA connector
- **Audio** Line in, Line out
- **Watchdog Timer** Programable

Communication

- **Serial Ports** 1 x RS-232, 2 x RS-232/422/485 with DB9 connectors, Automatic RS-485 data flow control
  RS-232/422/485 ports support hardware 128 byte FIFO
- **Serial Port Speed** For RS-232 port: 50 ~ 115.2 kbps
  For RS-232/422/485 port: RS-232, 300 ~ 115.2 kbps
  For RS-232/422/485 port: RS-422/485, 300 ~ 921.6 kbps
- **LAN** 2 x 10/100 Base-T RJ-45 ports
- **USB** 2 x USB, OpenHCI, Rev. 1.1 compliant

Enviroment

- **Operating Temperature** -10 ~ 55° C (14 ~ 131° F)
- **Storage Temperature** -20 ~ 80° C (-4 ~ 176° F)
- **Operating Humidity** 20 ~ 95% (non-condensing)
- **Storage Humidity** 0 ~ 95% (non-condensing)
- **Shock Protection** IEC 68 2-27
  CompactFlash®: 50 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

Ordering Information

- **UNO-1150-G20E** GX2 400 M, 256 MB RAM, UNO-1150

UNO-1170/1170E

Intel® Pentium® UNO with 2 x LAN, 3 x COM, 4 x USB, PC/104+

Features

- Onboard Celeron® M 1.0 GHz or Pentium® M 1.4 GHz
- Onboard 512 KB battery-backup SRAM
- Onboard system & I/O LED indicators
- Two RS-232 and one RS-232/422/485 ports with automatic flow control
- Two 10/100Base-T RJ-45 ports
- 3 x external USB and 1 x internal USB for dongle and flash drive
- PC/104+ expansion slots option
- DIN-rail design for easy installation in field cabinet
- Wide temperature operation
- Windows® CE 6.0, Windows XP Embedded, and Linux ready solution
- Supports Boot From LAN function
- Fanless and no internal cabling design

Introduction

UNO-1170(E) is an DIN-rail based embedded automation computer, which provides several serial communication ports and Ethernet interfaces.

UNO-1170(E) is designed as compact size, small foot print, and help to saves space and its front accessible is very convenient for wiring and DIN-rail design for easy installation in field cabinet. With rich OS and driver supports, such as Windows XP embedded, WinCE 6.0, and even embedded Linux. You can integrate your applications easily with an application ready platform that can provide a versatile function to fulfill diverse requirements.

Specifications

General

- **Certification** CE, FCC Class A, UL, CCC
- **Dimension (W x H x D)** 85 x 155 x 140 mm (3.4" x 6.1" x 5.6") (for UNO-1170)
  110 x 155 x 140 mm (4.4" x 6.1" x 5.6") (for UNO-1170E)
- **Enclosure** Aluminum + SECC
- **Mounting** DIN-rail, Wall
- **Power Consumption** 24 W (Typical)
- **Power Requirement** Min. 48 W (10 ~ 36 V_{DC}) (e.g +24 V @ 1 A), AT
- **Weight** 1.6 KG (for UNO-1170)
  2.0 KG (for UNO-1170E)
- **OS Support** Windows XP embedded, Windows 2000 & XP, Windows CE 6.0, Linux

System Hardware

- **CPU** Pentium M 1.4 GHz, Celeron M 1.0 GHz
- **Memory** 512 MB/1 GB DDR SDRAM
- **Battery Backup SRAM** 512 KB
- **Indicators** Power, IDE, LAN (Active, Status), Serial (Tx, Rx), Alram for battery backup SRAM and 1 user-defined LED and Buzzer
- **Keyboard/Mouse** 1 x PS/2
- **Storage** SSD: 1 x internal type I/II CompactFlash slot
  HDD: 1 x standard PATA 2.5" HDD (Only UNO-1170E)
- **PC-104+** PC/104+ slot, supports 3.3 V & +5 V (Only for UNO-1170E)
- **VGA** DB15 VGA connector, supports up to 1600 x 1200 @ 85 Hz
- **Audio** Line in, Line out
- **Watchdog Timer** Programable

Communication

- **Serial Ports** 2 x RS-232, 1 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
- **LAN** 2 x 10/100 Base-T RJ-45 ports (Built-in boot ROM in flash BIOS)
- **USB** 4 x USB, EHCI, Rev. 2.0 compliant (1 is for USB dongle and USB flash inside chassis)

Enviroment

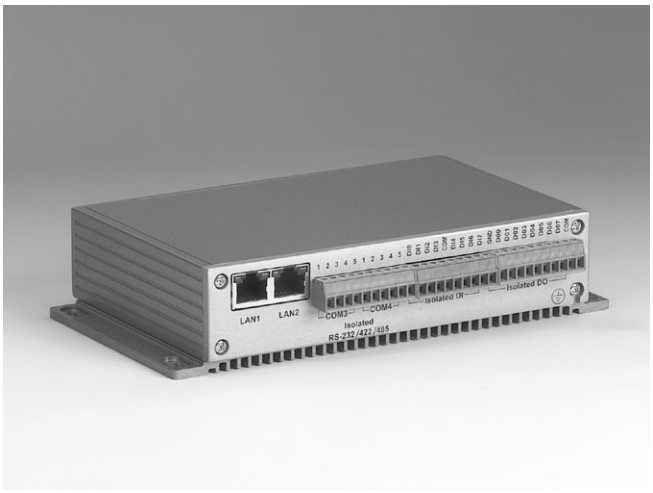
- **Operating Temperature** -20 ~ 60° C (-4 ~ 140° F)
- **Storage Temperature** -20 ~ 80° C (-4 ~ 176° F)
- **Operating Humidity** 20 ~ 95% (non-condensing)
- **Storage Humidity** 0 ~ 95% (non-condensing)
- **Shock Protection** IEC 68 2-27
  CompactFlash: 50 G @ wall mount, half sine, 11 ms
  HDD: 20 G @ wall mount, half sine, 11 ms (Only for UNO-1170E)
- **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 (Only for UNO-1170E)

Ordering Information

- **UNO-1170-C11E** C-M 1.0 G, 512 MB RAM, UNO-1170
- **UNO-1170E-C11E** C-M 1.0 G, 512 MB RAM, UNO-1170E
- **UNO-1170-P12E** P-M 1.4 G, 1 GB RAM, UNO-1170
- **UNO-1170E-P12E** P-M 1.4 G, 1 GB RAM, UNO-1170E

UNO-2050E

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



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 & 6.0, Windows XP Embedded SP2, and Linux ready solution
- Fanless and no internal cabling design

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 is available with a pre-configured Windows CE 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" x 4.2" x 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 & 6.0, Linux

System Hardware

- **CPU** AMD GX2 400 MHz
- **Memory** Onboard 256 MB DDR SDRAM
- **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 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 x standard RS-232 (COM1/COM2)
  2 x 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

UNO-2052E

AMD GX2 UNO with 2 x CAN, LAN

Features

- Onboard GX2 400 MHz
- Provides two CAN interfaces
- Provides one 10/100Base-T RJ-45 port and one USB port
- Windows® CE 5.0 & 6.0, Windows XP Embedded SP2, and Linux ready solution
- Fanless and no internal cabling design

Introduction

The Advantech UNO-2052E is a X86-grade platform that offers dual CAN 2.0B interfaces. Combined with CAN 2.0B interfaces, the UNO-2052E is an ideal solution for automobile and logistics applications. UNO-2052E is available with a pre-configured Windows CE 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-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" x 4.2" x 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 & 6.0, Linux

System Hardware

- **CPU** AMD GX2 400 MHz
- **Memory** Onboard 256 MB DDR SDRAM
- **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
- **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
- **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 with 2 x LAN, 2 x COM, Audio

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 slot
- Audio with Mic in, Line in, Line out
- Windows® CE 5.0 & 6.0, Windows XP Embedded SP2, and Linux ready solution
- Fanless and no internal cabling design

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 is available with a pre-configured Windows CE 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" x 4.2" x 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 & 6.0, Linux

System Hardware

- **CPU** AMD GX2 400 MHz
- **Memory** Onboard 256 MB DDR SDRAM
- **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

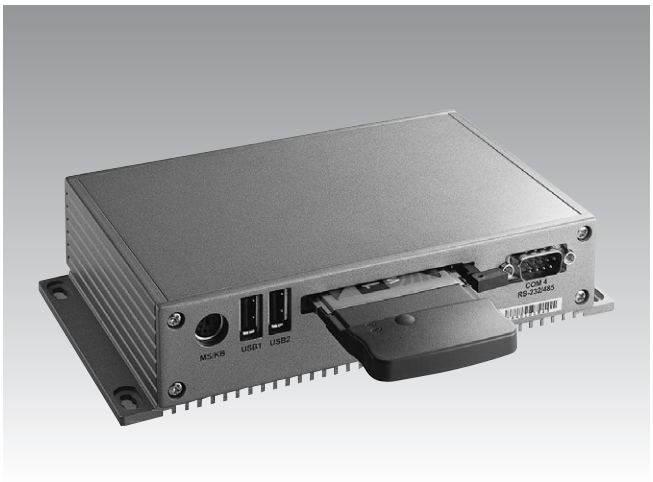
- **UNO-2053E-IDA0E** GX2 400 M, 256 MB RAM UNO-2053E

Accessories

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

UNO-2059E

AMD GX2 UNO with 4 x COM, LAN, PC Card



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 & 6.0, Windows XP Embedded SP2, and Linux ready solution
- Fanless and no internal cabling design

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 is available with a pre-configured Windows CE 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" x 4.2" x 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 & 6.0, Linux

System Hardware

- **CPU** AMD GX2 400 MHz
- **Memory** Onboard 256 MB DDR SDRAM
- **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 x RS-232/485, 2 x RS-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-2170

Intel® Celeron® M UNO with 2 x LAN, 4 x COM, PC/104

Features

- Onboard Celeron® M 600 MHz or Celeron M 1.0 GHz
- Onboard 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 & 6.0, Windows XP Embedded, and Linux ready solution
- Onboard system status LED indicators
- Supports Boot From LAN function
- Fanless and no internal cabling design

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 & 6.0, 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, CCC
- **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 & 6.0, Linux

System Hardware

- **CPU** Celeron M 600 MHz, Celeron M 1.0 GHz
- **Memory** 256 MB/512 MB DDR SDRAM
- **Battery Backup SRAM** 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 +5 V 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 x 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 (Built-in boot ROM in flash BIOS)
- **USB Ports** 2 x USB, EHCI, 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-C00E** C-M 600M, 256 MB RAM UNO-2170
- **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/Celeron® M UNO with 2 x LAN, 4 x COM, PC/104+

Features

- Onboard Pentium® M 1.4 GHz or Celeron® M 1.0 GHz
- Onboard 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 & 6.0, Windows XP Embedded SP2, and Linux ready solution
- Onboard system status LED indicators
- Supports Wake On LAN and Boot From LAN function
- Fanless and no internal cabling design

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 & 6.0, 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, CCC
- **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 & 6.0, Linux

System Hardware

- **CPU** Pentium M 1.4 GHz, Celeron M 1.0 GHz
- **Memory** 512 MB/1 GB DDR SDRAM
- **Battery Backup SRAM** 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 V, +3.3 V
- **PC/104+** PC/104+ slot, Supports +5 & 3.3 V 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 x 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 (supports wake on LAN and built-in boot ROM in flash BIOS)
- **USB Ports** 2 x USB, EHCI, 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-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

UNO-2172

Intel® Pentium® M/Celeron® M UNO with 2 x GbE, 4 x COM, DVI

Features

- Onboard Pentium® M 1.6 GHz, Celeron® M 1.5 GHz or Celeron M 1.0 GHz
- Onboard 512 KB 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 SATA 1.0 devices
- Onboard system status LED indicators
- Supports Wake On LAN and Boot From LAN function
- Fanless and no internal cabling design

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, CCC
- **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** 3 kg
- **OS Support** Windows XP Embedded, Windows 2000/XP

System Hardware

- **CPU** Pentium M 1.6 GHz
  Celeron M 1.5 GHz and Celeron 1.0 GHz
- **Memory** 512 MB or 1 GB DDR2 SDRAM
- **Indicators** LEDs for power, IDE, alarm for RAM backup battery
- **Battery Backup SRAM** 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 +5 V, +3.3 V
- **PCI-104** PCI-104 slot, supports +5 & 3.3 V Power
- **Storage** SSD: 1 x internal 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 SATA 1.0
- **Watchdog Timer** Programmable

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: 50 ~ 115.2 kbps
  RS-422/485: 50 ~ 921.6 kbps (Max.)
- **LAN** 2 x 10/100/1000Base-T Ethernet (supports wake on LAN and built-in boot ROM in flash BIOS)
  RJ45 ports
- **USB Ports** 2 x USB, EHCI, Rev. 2.0 compliant

Environment

- **Humidity** 95% @ 40° C (non-condensing)
- **Operating Temperature** -20 ~ 50° C (-4 ~ 122° F) @ 5 ~ 85% RH. (for UNO-2172-C22E and UNO-2172-P22E)
  -20 ~ 60° C (-4 ~ 131° F) @ 5 ~ 85% RH. (for UNO-2172-C11E)
- **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-C11E** C-M 1.0 G, 512 MB RAM UNO-2172
- **UNO-2172-C22E** C-M 1.5 G, 1 GB RAM UNO-2172
- **UNO-2172-P22E** P-M 1.6 G, 1 GB RAM UNO-2172

Accessories

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

UNO-2176

Intel® Pentium® M/Celeron® M UNO with 2 x LAN, 6 x COM, 16 x DI/O

Features

- Onboard Pentium® M 1.4 GHz/Celeron® M 1.0 GHz
- Onboard 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 & 6.0, Windows XP Embedded SP2, and Linux ready solution
- Onboard system status LED indicators
- Support Boot From LAN function
- Fanless and no internal cabling design

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 & 6.0, 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, CCC
- **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 & 6.0, Linux

System Hardware

- **CPU** Pentium M 1.4 GHz, Celeron M 1.0 GHz
- **Memory** 512 MB DDR SDRAM
- **Battery Backup SRAM** 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 V_{DC} (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 (Built-in boot ROM in flash BIOS)
- **USB** 2 x USB, EHCI, 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 1.0 G, 512 MB RAM UNO-2176
- **UNO-2176-P11E** P-M 1.4 G, 512 MB RAM UNO-2176

Accessories

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

UNO-2182

Intel® Core 2 Duo UNO with 2 x GbE, 4 x COM, DVI

Features

- Onboard Core 2 Duo 1.5 GHz
- Onboard 512 KB 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
- Onboard system status LED indicators
- Supports Wake On LAN and Boot From LAN function
- Fanless and no internal cabling design

Introduction

UNO-2182 is a high-performance Core 2 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, CCC
- **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** 3 kg
- **OS Support** Windows XP Embedded, Windows 2000/XP/Vista, Linux

System Hardware

- **CPU** Core 2 Duo 1.5 GHz
- **Memory** 1 GB DDR2 SDRAM
- **Indicators** LEDs for power, IDE, alarm for RAM backup battery
- **Battery Backup SRAM** 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 +5 V, +3.3 V
- **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 SATA 1.0
- **Watchdog Timer** Programmable

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: 50 ~ 115.2 kbps
  RS-422/485: 50 ~ 921.6 kbps (Max.)
- **LAN** 2 x 10/100/1000Base-T RJ45 ports (supports wake on LAN and built-in boot ROM in flash BIOS)
- **USB Ports** 2 x USB, EHCI, 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-D12E** C2D 1.5 G, 1 GB RAM UNO-2182

Accessories

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

UNO-3072

Intel® Pentium® M UNO with 2 x PCI, 1 x PC Card

Features

- Onboard Pentium® M processor
- Onboard 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 2.0 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 and Embedded Linux support
- Windows XP (SP2) Embedded Ready Platforms with write protection (EWF)
- Onboard system & I/O LED indicators
- Support Boot From LAN function
- Fanless and no internal cabling design

Specifications

General

- **Certifications** CE, FCC class A, UL, CCC
- **Dimensions (W x D x H)** 140 x 237 x 179 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** 9 ~ 36 V_{DC} (e.g. +24 V @ 2 A) (Max. 5A), AT. (16 ~ 36 V_{DC} for 12 V PCI boards)
- **Weight (Net)** 4.4 kg
- **OS Support** Windows XP embedded, Windows 2000/XP, WinCE 5.0, Linux

System Hardware

- **CPU** Pentium M 1.4 GHz
- **Memory** 512 MB DDR SDRAM
- **Battery Backup SRAM** 512 KB
- **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, 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 @ 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
  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 (Built-in boot ROM in flash BIOS)
- **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: 50 bps ~ 115.2 kbps
  RS-422/485: 50 bps ~ 921.6 kbps (Max.)
- **USB Ports** 4 x USB, USB EHCI, 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 (with CF card)** -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

Ordering Information

- **UNO-3072-P11E** P-M 1.4 G, 512 MB RAM UNO-3072

UNO-3072L

Intel® Celeron® M UNO with 2 x PCI Slots

UNO-3072L-C22E UNO-3072L-C11E

Features

- Onboard Celeron® M processor
- 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 2.0 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 and Embedded Linux support
- Windows XP (SP2) Embedded Ready Platforms with write protection (EWF)
- Onboard system & I/O LED indicators
- Support Boot From LAN function
- Fanless and no internal cabling design

Specifications

General

- **Certifications** CE, FCC class A, UL, CCC
- **Dimensions (W x D x H)** 140 x 237 x 179 mm (5.5" x 9.3" x 7.0", for UNO-3072L-C11E)
  153 x 237 x 179 mm (6" x 9.3" x 7.0", for UNO-3072L-C22E)
- **Enclosure** Aluminum
- **Mounting (Option)** Wall/Panel/Stand
- **Power Consumption** 24 W (typical, no PCI cards)
- **Power Input** 9 ~ 36 V_{DC} (e.g. +24 V @ 2 A) (Max. 5A), AT. (16 ~ 36 V_{DC} for 12 V PCI boards)
- **Weight (Net)** 4.2 kg/6 kg (UNO-3072L-C11E/UNO-3072L-C22E)
- **OS Support** Windows XP embedded, Windows 2000/XP, WinCE 5.0, Linux

System Hardware

- **CPU** Celeron M 1.0/1.5 GHz
- **Memory** 512 MB/1 GB DDR SDRAM
- **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, Programmable buzzer
- **Keyboard/Mouse** 1 x PS/2
- **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
  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 (Built-in boot ROM in flash BIOS)
- **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: 50 bps ~ 115.2 kbps
  RS-422/485: 50 bps ~ 921.6 kbps (Max.)
- **USB Ports** 4 x USB, USB EHCI, 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 (with CF card)** -20 ~ 55° C (UNO-3072L-C22E)
  -20 ~ 60° C (UNO-3072L-C11E)
- **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

Ordering Information

- **UNO-3072L-C11E** C-M 1.0 G, 512 MB RAM UNO-3072L
- **UNO-3072L-C22E** C-M 1.5 G, 1 GB RAM UNO-3072L

UNO-3074

Intel® Pentium® M UNO with 4 x PCI, 1 x PC Card

Features

- Onboard Pentium® M processor
- Onboard 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 and Embedded Linux support
- Windows XP (SP2) Embedded Ready Platforms with write protection (EWF)
- Onboard system & I/O LED indicators
- Support Boot From LAN function
- Fanless and no internal cabling design

Specifications

General

- **Certifications** CE, FCC class A, UL, CCC
- **Dimensions (W x D x H)** 180 x 237 x 179 mm (7.1" x 9.3" x 7.0")
  193 x 237 x 179 mm (7.6" x 9.3" x 7.0", only for UNO-3074-P32E)
- **Enclosure** Aluminum
- **Mounting (Option)** Wall/Panel/Stand
- **Power Consumption** 24 W (typical, no PCI cards)
- **Power Input** 9 ~ 36 V_{DC} (e.g. +24 V @ 4 A) (Max. 5A), AT. (20 ~ 36 V_{DC} for 12 V PCI boards)
- **Weight (Net)** 5.0 kg for UNO-3074-P11E
  7.0 kg for UNO-3074-P32E
- **OS Support** Windows XP embedded, Windows 2000/XP, WinCE 5.0, Linux

System Hardware

- **CPU** Pentium M 1.4/1.8 GHz
- **Memory** 512 MB/1 GB DDR SDRAM
- **Battery Backup SRAM** 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 (Built-in boot ROM in flash BIOS)
- **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: 50 bps ~ 115.2 kbps
  RS-422/485: 50 bps ~ 921.6 kbps (Max.)
- **USB Ports** 4 x USB, USB EHCI, 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 (with CF card)** -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

Ordering Information

- **UNO-3074-P11E** P-M 1.4 G, 512 MB RAM UNO-3074
- **UNO-3074-P32E** P-M 1.8 G, 1 GB RAM UNO-3074

UNO-3282

Intel® Core 2 Duo UNO with 2 x PCI, 2 x GbE

Features

- Onboard Core 2 Duo 1.5 GHz processor
- Onboard 512 KB Battery- backup SRAM
- 2 x RS-232 and 2 x RS-232/422/485 ports with automatic flow control
- 2 x 10/100/1000 Base-T Ethernet ports
- 2 x PCI-bus expansion slot for versatile applications
- Support Line-in and Line-out with Audio interface
- Both DVI-D and VGA display to support Dual Display output
- Windows® XP Embedded ready solution
- Onboard system & I/O LED indicators
- Support Wake On LAN and Boot From LAN function
- Fanless and no internal cabling design

Introduction

Advantech's UNO-3200 series is high-performance Core 2 Duo grade, embedded automation computer with two PCI expansion slots. UNO-3200 features a rugged design with Giga LAN and battery backup SRAM. Different from general industrial PCs, UNO-3200 series is more compact and reliable with Fanless/Cableless/Diskless design. 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-3200 series 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, UL, CCC
- **Dimensions (W x D x H)** 200 mm x 240 mm x 130 mm (7.9" x 9.4" x 5")
- **Enclosure** Alumium
- **Mounting** Built-in Wall/Desktop mounting kit
- **Power Consumption** 100 W
- **Power Input** 9 ~ 36 V_{DC} (e.g +24 V @ 5 A), ATX
- **Weight** 5.5 Kg
- **OS Support** Windows XP Embedded, Windows 2000/XP/ Vista, Linux

System Hardware

- **CPU** Intel Core 2 Duo 1.5 GHz
- **Memory** 1GB DDR2 SDRAM
- **Battery Backup SRAM** 512 KB
- **Indicators** LED for Power, Power Standby, IDE LED; 4 COM ports Tx/Rx, 2 LAN ports Tx/Rx, 4 user define LED and alarm for BatteryBackup
- **Keyboard/Mouse** 2 x PS/2 connector for Keyboard& Mouse
- **Audio** Line in, Line out
- **Expansion Slots** 2 x PCI V2.2
  (Note: The heat dissipation in the PCI cards may affect thermal performance)
- **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
  HDD 2 x SATA 1.0 2.5" HDD (option)
- **Display** Support to 1600 x 1200 @ 85 Hz
  VGA + DVI-D, support dual display
- **Watchdog Timer** Programmable

Communication

- **Clock** Battery-backup RTC for time and date
- **LAN** 2 x 10/100/1000Base-T RJ-45 ports (using Intel 82573L chip, supports Wake On LAN function and built-in boot ROM in flash BIOS)
- **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: 50bps ~ 115.2 kbps
  RS-422/485: 50bps ~ 921.6 kbps (Max)
- **USB** 5 x USB, USB EHCI, Rev. 2.0 compliant (1 is for USB dongle and USB flash inside chassis)

Environment

- **Humidity** 95% @ 40° C (non-condensing)
- **Operating Temperature (with CF card)** -20 ~ 60° C
- **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: 5 Gms @ 5 ~ 500 Hz
  HDD: 1 Gmx @ 5 ~ 500 Hz

Ordering information

- **UNO-3282-D12E** Core 2 Duo 1.5 GHz, 1 GB RAM UNO-3282
- **UNO-HD32-AE** 2.5" HDD disk bay for UNO-3200 series

UNO-4678

Intel® Celeron® M UNO with 3 x LAN, 8 x COM, PC/104

Features

- Onboard Celeron® M 1 GHz processor and supports 512 MB Memory
- Supports Lm sensor which can retrieve CPU and board temperature for monitoring purposes
- 8 x isolated RS-232/422/485 ports with automatic flow control
- 3 x 10/100Base-T RJ-45 ports
- Supports two USB and 1 x type I/II CF card
- Windows® CE 5.0 and Windows XP Embedded ready solution
- Windows 2000/XP driver ready and Linux driver support
- Windows XP Embedded (SP2) ready platform with write protection (EWF)
- Onboard system & I/O LED indicators
- Fanless and no internal cabling design

Introduction

UNO-4678 is high-performance controllers support to Celeron M 1 GHz grade, and equipped with eight isolated serial communication ports. They inherit the glory from the UNO family and includes the typical characteristics as it is fanless, robust, and reliable. Furthermore, in order to meet the diverse applications in industrial automation and control, varied interfaces and 1U form factor are suitable for use, especially for rack mounting. Also, LEDs for all ports and modes on the front panel simplify the monitoring status for operation, administration and maintenance. UNO-4678 is convenient and user-friendly platforms to fulfill a wide range of requirements.

Specifications

General

- **Certifications** CE, FCC class A, UL, CCC
- **Dimensions (W x D x H)** 1U (440 x 220 x 44 mm/17.3" x 8.6" x 1.7")
- **Enclosure** SECC
- **Mounting** Rack, wall
- **Power Consumption** 24 W (Typical)
- **Power Input** Min. 48 W (9 ~ 36 V_{DC}) (e.g +24 V @ 2 A), AT
- **Weight** 3.6 kg
- **OS Support** Windows XP Embedded, Windows 2000/XP, Windows CE 5.0, Linux

System Hardware

- **CPU** Celeron M 1 GHz
- **Memory** 512 MB DDR SDRAM
- **Indicators** Power, Power input 1, Power input 2, Power fault, IDE, and all ports Tx/Rx monitoring
- **Keyboard/Mouse** 1 x PS/2
- **Storage**
  SSD 1 x internal type I/II CompactFlash® slot
  HDD built in extension kit for one standard 2.5" HDD
- **VGA** DB15 VGA connector, supports up to 1600 x 1200 @ 85 Hz

Communications

- **Serial Ports** Eight RS-232/422/485 ports include:
  - 2 x DB-9 connectors with 9-wired RS-232
  - 6 x screw terminals with 5-wired RS-232
  Automatic RS-485 data flow control
  2000 V_{DC} surge protection & 2000 V_{DC} isolation
- **Serial Port Speed** RS-232: 50 ~ 230.4 kbps
  RS-422/485: 50 ~ 921.6 kbps (Max.)
- **LAN** 3 x 10/100Base-T RJ-45 ports
- **USB Ports** 2 x USB, USB EHCI, Rev. 2.0 compliant

Environment

- **Humidity** 95% @ 40° C (non-condensing)
- **Operating Temperature** -10 ~ 50° C (14 ~ 122° F)
- **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-4678-C11E** Celeron M 1 GHz, 512 MB RAM UNO-4678

Accessories

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 mm (W x H x D) (Only extension kit)

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 35 cm cable

Ordering Information

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

UNO-HD20

UNO-2000 HDD Expansion Kit

- Dimensions: 188.8 x 106.5 x 21.0 mm (W x D x H) (Only extension kit)

Supported Models

- UNO-2050E, UNO-2052E, UNO-2053E, UNO-2059E

Packing List

- Extend chassis, 1 piece 12 cm IDE cable, post for assembly 2.5" HDD

Ordering Information

- **UNO-HD20-AE** UNO-2000 HDD expansion kit

UNO-3000 Mounting Accessories

Panel Mounting Kit

Supported Models

- UNO-3072L, UNO-3072, UNO-3074

Ordering Information

- **UNO-PM70-AE**
  Panel mounting kit for UNO-3000 series

Stand Mounting Kit

Supported Models

- UNO-3072L, UNO-3072, UNO-3074

Ordering Information

- **UNO-SM70-AE**
  Stand mounting kit for UNO-3000 series

Wallmounting Kit for UNO-3074 series

Supported Models

- UNO-3074-P11E

Ordering Information

- **UNO-WM74-AE**
  Wallmounting kit for UNO-3074-P11E

Wallmounting Kit for UNO-3072 series

Supported Models

- UNO-3072L-C11E, UNO-3072-P11E

Ordering Information

- **UNO-WM72-AE**
  Wallmounting kit for UNO-3072L-C11E/UNO-3072-P11E

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) (Only extension kit)
- Supports VESA 75 and 100 monitor

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-DIN21

UNO-2100 Series DIN-rail Kit

- Supports DIN-rail mounting (EN50022, 35 mm X 7.5 mm)

Supported Model List

- UNO model All UNO-21XX series

Ordering Information

- **UNO-DIN21-AE** UNO-2100 series DIN-rail Kit

UNO-PCM

UNO-2100 Series PC/104 Expansion Kit

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

Supported Model List

- **UNO-2170**
  This kit includes one solid panel, one "2 x DB-9" panel and one "4 x DB-9" panel

Ordering Information

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

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

Supported Model List

- **UNO-2171, UNO-2172, UNO-2176, UNO-2182**
  This kit includes one solid panel, one "2 x DB-9" panel and one "4 x DB-9" panel

Ordering Information

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