UNO-2176

Intel® Pentium® M/Celeron® M Automation Computer with 2 x LAN, 6 x COM, 8 x DI, 8 x DO

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 Isolated DI and 8-ch Isolated DO with counter and timer
- 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
- Supports Boot from LAN function
- Fanless design with no internal cabling
- Isolation between chassis and power ground

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**   Wallmount
- **Industrial Grounding**   Isolation between chassis and power ground
- **Power Consumption**   24 W (Typical)
- **Power Requirements**   9 ~ 36 V_{DC} (e.g +24 V @ 2 A) (Min. 48 W), AT
- **Weight**   2.4 kg
- **OS Support**   WES Windows XP Embedded, Windows 2000/XP, Windows CE 5.0 & 6.0, Linux, QNX
- **System Design**   Fanless with no internal cabling
- **Remote Management**   Built-in Advantech DiagAnywhere agent on Windows CE/XPe

System Hardware

- **CPU**   Pentium M 1.4 GHz, Celeron M 1.0 GHz
- **Memory**   512 MB DDR SDRAM built-in
- **Battery Backup SRAM**   512 KB
- **Indicators**   LEDs for Power, IDE, Alarm for battery backup SRAM, Diagnosis (programmable), LAN (Active, Status) and Serial (Tx, Rx)
- **Keyboard/Mouse**   1 x PS/2
- **PC/104 Slot**   PC/104 Supports +5V Power
- **Storage**   SSD: 1 x internal type I/II CompactFlash® slot
HDD: Build-in one 2.5" SATA/IDE HDD bracket
- **Display**   DB15 VGA connector, 1600 x 1200 @ 85 Hz
- **Watchdog Timer**   Programmable 256 levels timer interval, from 1 to 255 sec

I/O Interface

- **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}
EFT protection: 2,000 V_{DC}
- **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 Inputs**   8-ch wet contact
- Logic 0: 0 ~ 3 V_{DC} ; Logic 1: 10 ~ 50 V_{DC}
- 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
- 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**   (IEC 60068-2-2, 100% CPU/ I/O loading)
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-C11BE**   Celeron M 1 GHz, 512 MB RAM Automation Computer

Accessories

- **UNO-PCM22-AE**   2 x PC/104 expansion kit for UNO-2100 series
- **UNO-FPM21-AE**   UNO-2000 series VESA mount kit
- **PCLS-DIAGAW10**   Advantech Remote Monitoring & Diagnosis Utility

ADVANTECH   **Embedded Automation Computers**