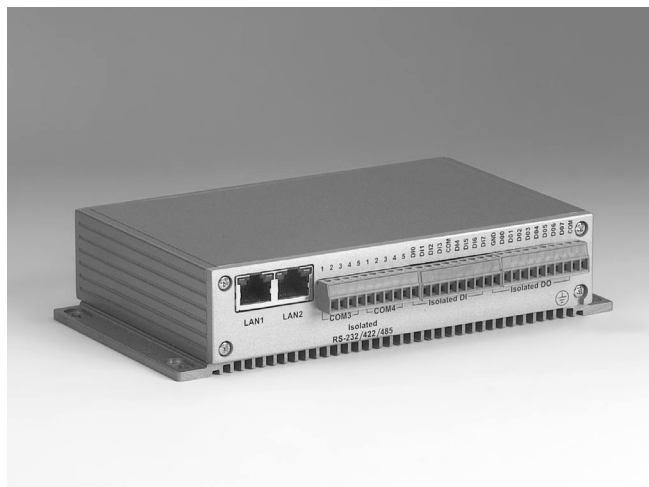# UNO-2050

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

Features

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

Introduction

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

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

Specifications

- **CPU** — NS Geode GX1-300 MHz, 64/128 MB SDRAM on board
- **VGA/Keyboard/Mouse** — DB-15 VGA Connector, PS/2 keyboard & mouse
- **Serial Ports** — 2 × standard RS-232 (COM1/COM2)
  2 × isolated RS-232/422/485 (COM3/COM4)
  Automatic RS-485 data flow control
  RS-232/422/485 (COM3/COM4) with 2000 V_{DC} surge protection & 2000 V_{DC} isolation
  Speed: RS-232: 50 ~ 230.4 Kbps;
  RS-422/485: 50 ~ 921.6 Kbps
- **8-ch isolated digital input** — 2,000 V_{DC} isolation, 2,000 V_{DC} ESD protection, 70 V_{DC} over-voltage protection
  0 ~ 50 V_{DC} input range and 10 KHz speed; Interrupt handling.
- **8-ch isolated digital output** — 2,000 V_{DC} isolation and 200 mA max / channel sink current
  Keep output status after system hot reset
  5 ~ 40 V_{DC} output range and 10 KHz speed
- **Two 16-bit counter timer** — Counter source: DI6 & DI7, Pulse output: DO6 & DO7
  Can be cascaded as one 32-bit counter/timer
  Down counting, preset counting value, interrupt handling
  Timer time base: 100 KHz, 10 KHz, 1 KHz,100 Hz
- **LAN** — Dual 10/100Base-T RJ-45 Port
- **SSD** — One internal Type I / Type II CompactFlash card slot
- **HDD** — Offer HDD ext.kit for inst. of one standard 2.5" HDD.
- **Watchdog Timer** — Programmable
- **Anti-Shock** — 20 G @ DIN IEC 68 section 2-27, half sine, 11 ms 50 G @ Wall/Panel IEC 68 section 2-27, half sine, 11 ms.
- **Anti-Vibration** — 2 G w/ CF @ IEC 68 section 2-6, sine, 5 ~ 500 Hz, 1 Oct./min, 1hr/axis.
  1 G w/ HDD @ IEC 68 section 2-6, sine, 12 ~ 300 Hz, 1 Oct./min, 1 hr/axis.
- **LED** — Power LED, IDE LED and one programmable diagnostic LED and buzzer.
- **Power Supply** — 9 ~ 36 V_{DC}
- **Operating Temperature** — -10 ~ 55° (14 ~ 131° F) @ 5 ~ 85% relative humidity.
- **Related Humidity** — 95% @ 40° C.
- **Power Consumption** — 0.6 A max @ +24 V input or 1.2 A max @ +12 V input
- **Power Requirement** — 1 A typical @ +24 V nput or 1.5 A typical @ +12 V input
- **Chassis Size (WxDxH)** — 188.8 x 106.5 x 35.5 mm (7.5" × 4.2" × 1.4")
- **Weight** — 0.8 kg

Driver Support

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

Ordering Information

- **UNO-2050-GDA0** — GX1-300 UNO with 64 MB SDRAM, 2 x LAN, 2 x RS-232, 2 x isolated RS-232/422/485, 16 x isolated DI/O
- **UNO-2050CE-GDA1** — GX1-300 UNO with 64 MB SDRAM, 2xLAN, 2xRS-232, 2 x isolated RS-232/422/485, 16 x isolated DI/O and Windows CE .NET 4.1 OS.
- **UNO-2050-HDA0** — GX1-300 UNO with 128 MB SDRAM, 2 x LAN, 2 x RS-232, 2 x isolated RS-232/422/485, 16 x isolated DI/O
- **UNO-HD20-A** — UNO-2000 HDD extension kit

1 IPPC & AWS
2 TPC
3 FPM
4 ATM
5 DA&C
6 cPCI
7 ADAM-3000
8 eConnectivity
9 ICOM
10 Software
11 UNO-2000/3000
12 VBOX
13 ADAM-4000
14 ADAM-5000
15 ADAM-6000
16 ADAM-8000