ADAM-5550CE

8-slot PC-based Controller with GX2 CPU

Features

- Support VGA port for local display of HMI software
- Can be operated with or without display/keyboard/mouse
- Remote monitoring through Web Server
- Remote maintenance via FTP Server
- Supports Modbus/RTU Master and Modbus/TCP (Server/Client) Protocol
- Support .NET class library in Windows CE
- Supports SD Storage I/O Module
- Supports AMONet Master Module
- Supports Motion Control Modules
- Remote I/O expansibility
- Rich support to ADAM-5000 I/O Modules

Introduction

ADAM-5550CE is a PC-based Controller designed for control tasks which require Industrial PC computing performance with a PLC form factor and I/O module design. ADAM-5550CE offers an AMD Geode GX533 CPU along with control specific features such as watchdog timer, battery backup RAM. ADAM-5550CE features .NET class library which supports Microsoft Visual Studio .NET programming languages under WinCE 5.0, so users can develop control application and HMI software with their own familiar programming environment. With the built-in VGA port, no longer will users be required to build up additional SCADA PC's in their applications. This compact and powerful PC-based controller has been widely applied in variety of industrial automation applications especially ranging from machine automation to SCADA applications.

Specifications

Control System

- **CPU** — AMD Geode GX533 (GX2)
- **I/O Capacity** — 8 slots
- **LED Indicators** — Power, User define
- **Memory** — 128 MB DDR SDRAM with 1 MB Battery Backup
  1 x CompactFlash® Card (Internal)
- **Operating System** — Windows® CE 5.0
- **Real-time Clock** — Yes
- **Watchdog Timer** — Yes

Communications

- **Comm. Protocol** — Modbus/RTU and Modbus/TCP
- **Medium** — 2 x 10/100 Base-T Ethernet Interface with RJ-45 connectors

Protection

- **Communication** — 2,500 V_{DC} (COM2 RS-485)/1,000 V_{DC} (COM4 RS-485)
- **Power Reversal Protection** — Yes

Power

- **Power Consumption** — 12 W @ 24 Vdc (not including I/O modules)
- **Power Input** — Unregulated +10 to +30 V_{DC}

General

- **Certificate** — CE
- **Connectors** — 1 x RS-232/485 (COM1)
  1 x RS-485 (COM2)
  1 x RS-232 (COM3)
  1 x RS-232/485 (COM4)
  2 x USB 1.1 ports (KB/Mouse via USB Ports)
  1 x VGA (1024 X 768 Resolution)
- **Dimensions** — 355 x 110 x 75 mm
- **Enclosure** — ABS+PC
- **Plug-in Screw Terminal** — Accepts 0.5 mm² to 2.5 mm², 1 - #12 or 2 - #14 to #22 AWG

Environment

- **Humidity** — 5% to 95%, non-condensing
- **Operating Temperature** — 0 ~ 55° C (32 ~ 131° F)
- **Storage Temperature** — - 25 ~ 85° C (-13 ~ 185° F)

Ordering Information

- **ADAM-5550CE** — 8-slot PC-based Controller with GX2 CPU
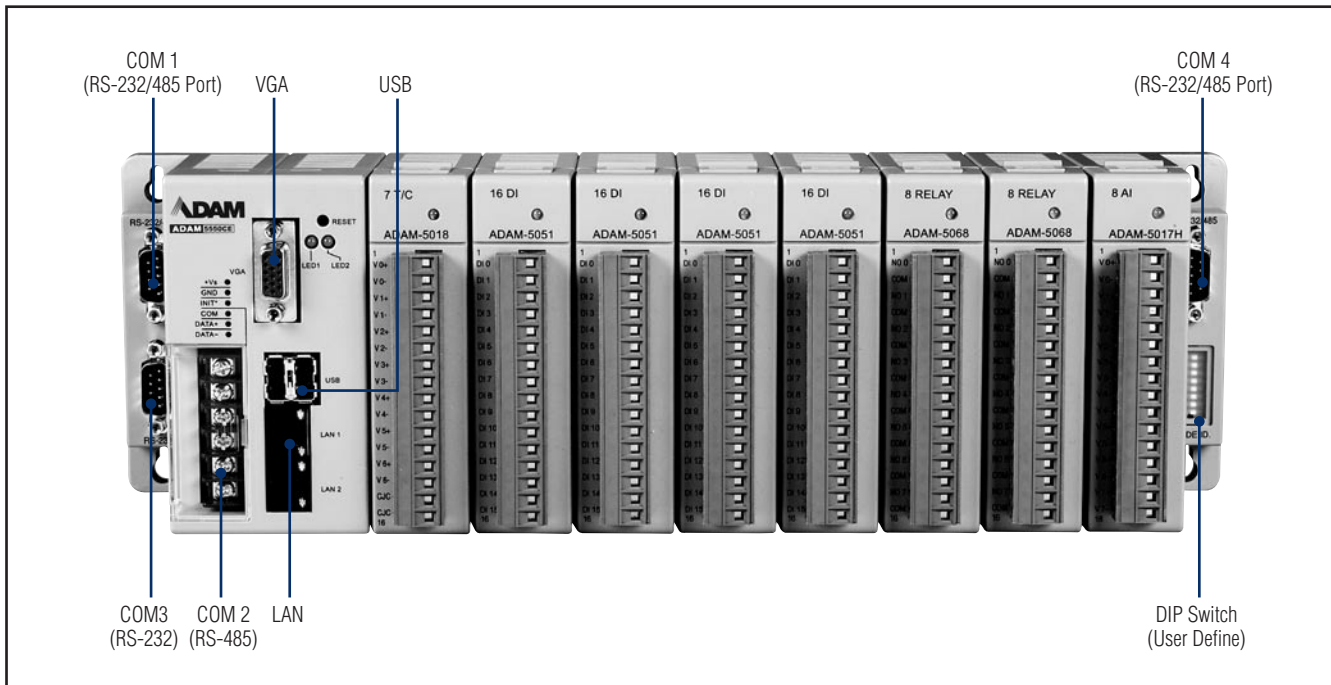
Controller Features

ADAM-5550CE is designed for control tasks which need Industrial PC's computing performance and PLC's robustness. Its multiple functionalities include discrete, analog and motion functions. The .NET class libraries provide a flexible and easy-to-use software solution for versatile applications. ADAM-5550CE supports Modbus protocol which allows data exchange with various Modbus devices.

Visualization

ADAM-5550CE has a built-in VGA port which can directly connect to a display. So HMI function can be integrated into this controller. ADAM-5550CE can be operated with or without display/keyboard/mouse which can meet different requirements of applications.

Widely Used IT Technology

ADAM-5550CE supports widely used IT technology of industrial PC. For remote monitoring function, the built-in web server can provide local I/O status for internet access and email alarm function can send alarm message to dedicated email addresses when there is any alarm occurs. For remote maintenance function, the built-in FTP server provides service for uploading application program or downloading data logging files.

Dual Ethernet Ports

ADAM-5550CE provides two Ethernet ports for different application requirements such as redundant Ethernet connection for reliability concern or separated network connections for security concern. Both of the functions are possible to be implemented by customer's application program.

Remote I/O Expansibility

ADAM-5550CE supports not only Modbus/RTU Master function via serial ports, but also the Modbus/TCP Client to retrieve data from remote I/O, and Modbus/TCP Server to exchange data with other Modbus devices via Ethernet port. This Modbus feature is very useful when the control system needs expand the remote I/O modules or connect to other controllers.

Rich Support to ADAM-5000 I/O Modules

Most of the ADAM-5000 I/O modules are supported by ADAM-5550CE including analog I/O modules, digital I/O modules, and motion control module. Besides the ADAM-5000 I/O modules, ADAM-5550CE supports new modules including SD slot, COM port with shared interrupt, high speed counter and high density DI/O modules.

AMONet Motion Control Module

AMONet Module supports two RS-485 master ports, and transfers data between host and slaves directly without any operations in between. Each port of the master can control up to 2048 I/O points, 64 axes, or a combination of I/O points and axes for motion control. The master ports support up to 20 Mbps transfer rate and a maximum communication distance of up to 100 meters. The communication between master and slave is based on a customized RS-485 solution that saves wires, covers a long distance, supports high-speed communication and has time-deterministic features. Various functions can be chosen on the slave modules, and standard industrial DIN rail mounting design makes it easy to distribute them in the field.

Motion Control Module

ADAM-5550CE supports stepping/pulse-type servo motor control module, which is designed for general-purpose applications. The servo motor control module's intelligent NOVAR MCX314-motion ASIC comes built-in with a variety of motion control functions, such as 2/3-axis linear interpolation, 2-axis circular interpolation, T/S-curve acceleration/deceleration rate and more. It performs these motion control functions without processor loading during driving.