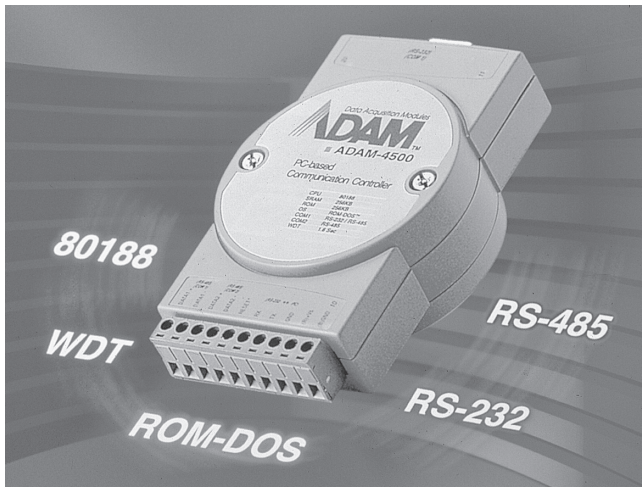# ADAM-4500

PC-based Communication Controller

Features

- Powerful communication controller in a small package
- Built-in Boot ROM DOS to run PC programs
- Free ROM/RAM memory for user's applications
- 2-wire, multi-drop RS-485 networking
- Communication speed up to 115.2 Kbps
- RS-232/RS-485 modes (jumper selectable)
- Automatic data flow control in RS-485 mode
- Built-in real-time clock and watchdog timer
- Easy mounting on a DIN-rail or panel
- Accepts unregulated power sources between 10 to 30 V_{DC}
- Program download cable and utility included

Introduction

The ADAM-4500 is a fully functional stand-alone controller for industrial automation and control. It provides an ideal environment for controlling PC hardware with a minimal amount of development effort. Its built-in ROM-DOS lets users run standard PC programs or new programs produced by PC language development tools. ROM-DOS is an MS-DOS equivalent operating system allowing you to run all standard PC software.

Built-in RS-232/485 COM Ports

The ADAM-4500 has two communication ports (COM1 and COM2). These provide easy communication between the controller and other devices in your applications. COM1 can be configured for RS-232 or RS-485 communication via a jumper setting, while COM 2 is dedicated as an RS-485 port. This design allows the controller to be used in a variety of applications. For example, a user can download an application into the ADAM-4500's on-board Flash memory while the ADAM-4500 is connected to an RS-485 network, then let it control all the modules in the network.

Built-in Real-time Clock and Watchdog Timer

The real-time clock in the controller ensures accurate time recording while the system operates. The watchdog timer is designed to automatically reset the CPU if the system fails.

Specifications

Board

- **CPU** 80188-40
- **Flash ROM** 256 KB (170 KB free memory for users)
- **Operating System** Boot ROM DOS
- **Timer BIOS** Yes
- **SRAM** 256 KB (234 KB free memory for users)
- **Real-time Clock** Yes
- **Watchdog Timer** Yes
- **COM1** RS-232/485
- **COM2** RS-485
- **Program Download Port(RS-232)** Tx, Rx, GND
- **Power Requirement** Unregulated +10 to +30 V_{DC}
- **Power Consumption** 2.0 W
- **Operating Temperature** -10 ~ 70° C (14 ~ 158° F)
- **Case** ABS with captive mounting hardware
- **Plug-in Screw Terminal Block** Accepts 0.5 mm to 2.5 mm 1-#12 or 2-#14 ~ #22 AWG
- **Dimensions** 60 x 120 mm (2.36" x 4.72")

RS-232 Interface

- **Signals** TxD, RxD, RTS, CTS, DTR, DSR, DCD, RI, GND
- **Mode** asynchronous full duplex, point to point
- **Transmission Speed** Up to 115.2 kbps
- **Max Transmission Distance** 15.2 meters (50 feet)

RS-485 interface

- **Signals** DATA+, DATA-, GND
- **Mode** Half duplex, multi-drop
- **Transmission Speed** Up to 115.2 kbps
- **Max Transmission Distance** 1200 meters (4000 feet)

Software

The ADAM-4500 module provides 170 KB ROM for your downloaded applications and 234 KB RAM for application operation. Its built-in ROM-DOS is an MS-DOS equivalent operating system, which provides all of the basic functions of MS-DOS except BIOS. Application programs written in high level languages such as C or C++ can run under ROM-DOS. Application programs should be converted into 80188 compatible code before being downloaded into the ADAM-4500. The download utility is included with the ADAM-4500.

Ordering Information

- **ADAM-4500** PC-based communication controller