

# PC-based Communications Controller

## Model ADAM-4500

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. 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.

The ADAM-4500 has two communication ports (COM1 and COM2). These provide easy communication between the controller and other devices. 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. The real-time clock in the controller ensures accurate time recording while the system operates. The watchdog timer is automatically resets the CPU when the system fails.

The ADAM-4500 module provides 170 KB ROM for user application downloading and 234 KBRAM for application operation. Its built-in ROM-DOS is an MS-DOS equivalent operating system providing all 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.)



### Applications

- Embedded control applications
- Distributed data acquisition and control
- Laboratory data collection and process control
- Production monitoring and control

### 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)
COM1:	RS-232/485 (jumper selectable)
COM2:	RS-485
Program download port:	(RS-232) Tx, Rx, GND
Power requirement:	Unregulated +10 to +30 VDC
Power consumption:	2.0 W
Operating temperature:	14 to 158° F (-10 to 70° C)
Storage temperature:	-13 to 158° F (-25 to 70° C)
Humidity:	5 to 95% (non-condensing)
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)
Dimension:	4.6 x 2.7 x 1.7 in (11.7 x 6.9 x 4.3 cm)

#### 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:	50 feet (15.2 meters)

#### RS-485 Interface

Signals:	DATA+, DATA-, GND
Mode:	Half duplex, multi-drop
Transmission speed:	Up to 115.2 Kbps
Max transmission distance:	4000 feet (1200 meters)

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