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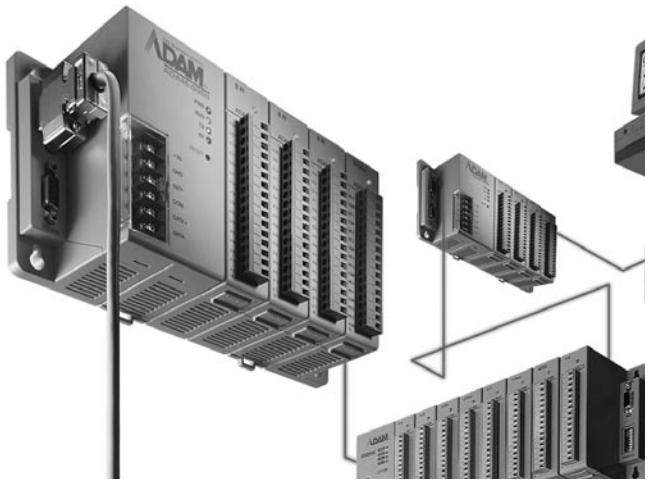
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Find the *Advantech ADAM-5000/485* at our website: ***Click HERE***

ADAM-5000/485
ADAM-5000E

4-Slot Distributed DA&C System for RS-485 Networks

8-Slot Distributed DA&C System for RS-485 Networks



Features

- RS-485 Communication for easy installation and networking
- 4 or 8 slots for up to 128 points data monitoning card control in one module
- Extensive Software support, inclucles windows DLL drivers, OCX drivers, OPC server and popular HMI/SCADA software drivers.
- Seamlessly inteqrated with easy-to-use ADAMView data acquisition software.

Introduction

The ADAM-5000/485 and ADAM-5000E systems use the EIA RS-485 communication protocol. This is the industry's most widely used, balanced, bidirectional transmission line standard. RS-485 was specifically developed for industrial applications to transmit and receive data at high rates over long distances.

Specifications

Control System

- **CPU** 16-bit 80188 microprocessor
- **I/O Slots** ADAM-5000/485: 4
ADAM-5000E: 8
- **LED Indicators** Power, CPU, communications
- **Watchdog Timer** 1.6 sec. (System)

Communications

- **Command Format** ASCII command/response protocol, Modbus/RTU
- **Communication Distance** RS-485: 1.2 km (4000 feet)
- **Data Format** Asynchronous. 1 start bit, 8 data bits, 1 stop bit, no parity
- **Network Protocols** Programming link: RS-232 (3-wire: TX, RX, GND)
Communication: RS-485 (2-wire)
- **Reliability Check** Communication error checking with checksum
- **Max. Nodes** 256 (in RS-485 daisy-chain network)
- **Speeds (kbps)** 1.2, 2.4, 4.8, 9.6, 19.2, 38.4, 57.6, and 115.2

Power

- **Power Consumption** 1.0 W (ADAM-5000/485) (not including I/O modules)
4.0 W (ADAM-5000E) (not including I/O modules)
- **Power Input** Unregulated 10 ~ 30 V_{DC}

Software

- **Driver Support** Windows DLL, OPC server, Wonderware® InTouch®, Intellution®, iFIX®, Citect.

Protection

- **Communication Line Isolation** 2500 V_{DC} (ADAM-5000/485)
3000 V_{DC} (ADAM-5000E)
- **Communication Power Isolation** 3000 V_{DC}
- **I/O Module Isolation** 3000 V_{DC}
- **Transient Protection** RS-485 communication lines, power input
- **Power Reversal Protection** Yes

General

- **Certifications** CE, FM
- **Connectors** 1 x DB9-M/DB9-F/screw terminal for RS-485 (communication)
1 x DB9-F for RS-232 (configuration)
1 x Screw-terminal for power input
- **Dimensions (WxHxD)** 4-slot: 231 x 110 x 75 mm
8-slot: 355 x 110 x 75 mm
- **Enclosure** ABS+PC
- **Mounting** DIN 35 rail, wall, rack (with mounting kit)

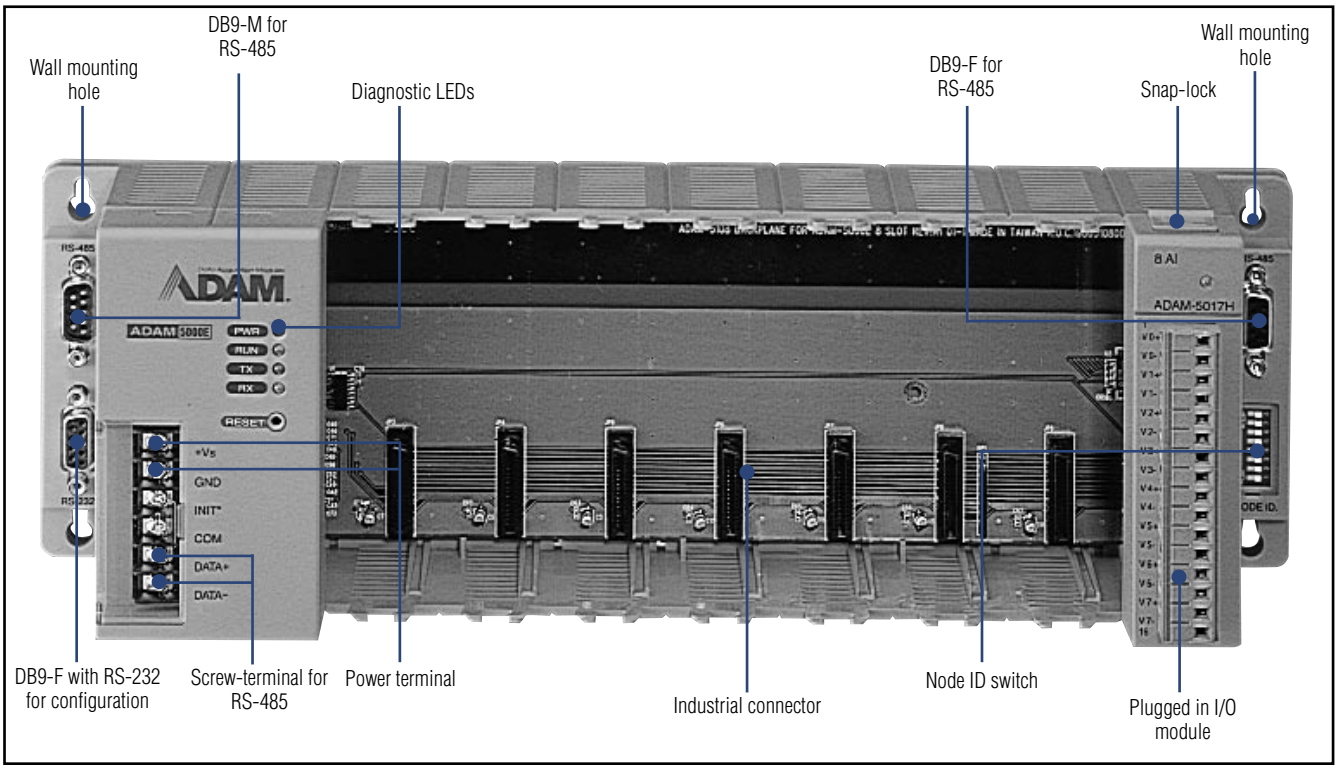
Environment

- **Humidity** 5 ~ 95%, non-condensing
- **Operating Temperature** -10 ~ 70° C (14 ~ 158° F)
- **Storing Temperature** -25 ~ 85° C (-13 ~ 185° F)

Ordering Information

- **ADAM-5000/485** Distributed DA&C System Based on RS-485 (4 slot)
- **ADAM-5000E** Distributed DA&C System Based on RS-485 (8 slot)
- **PCLS-OPC/ADM** OPC Server for ADAM-4000/5000 Series (RS-485)
- **PCLS-OCX** ActiveX Control for Data Acquisition and Control
- **PCLS-ADAMVIEW32** ADAMView Data Acquisition Software

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Feature Details

Two-wire Communication

ADAM-5000/485 and ADAM-5000E systems use a single twisted pair of wires to transmit and receive data. Special circuitry ensures reliable communications and suppresses line noise on communication lines. This reduces overall network cost by simplifying installation and minimizing the number of cables, connectors, communication repeaters and filters required.

Transient Protection

High-speed transient suppressors protect the system from dangerous voltage surges or power spikes from both the power supply input and the communication ports.

Network Expansion

By using the ADAM-4510 repeater to amplify or boost existing signals, your networks can be stretched beyond 1.2 km.

Each ADAM-4510 repeater enables you to add up to 32 ADAM-5000 units to your network, extending the network by another 4000 feet (1.2 km). Up to 256 ADAM-5000/485, ADAM-5000E units can be connected to a single RS-485 network.

RS-232 to RS-485 Conversion

RS-232 serial ports are standard with most industrial computer systems. Though widely accepted, RS-232 has limited transmission speed, range and networking capabilities. The RS-485 standard overcomes these limitations by using differential voltage lines for data and control signals.

ADAM-4520 is an isolated converter that lets you take advantage of RS-485 on an RS-232 system by converting RS-232 signals to RS-485 signals. Software written for half-duplex RS-232 may also be used without modification. ADAM-4520 helps you build an industrial grade, long distance communication system with standard PC hardware.

Intelligent RS-485 Data Flow Control

The RS-485 communication protocol will support half-duplex communication. Only two wires are needed for transmitting and receiving data. Handshaking signals such as RTS (Request to Send) normally control the direction of the data flow. A special I/O circuit in the ADAM-4510 and ADAM-4520 modules sense the data flow direction and automatically switches the transmission direction, making handshaking signals unnecessary. This makes the RS-485 bus control completely transparent to the user.

Built-in RS-232 Communication

The RS-232 port is used to connect to a host PC for programming, control and monitoring of applications. This aids troubleshooting, and allows a PC to be linked with all the I/O points of the I/O modules.

ASCII-based Protocol and Modbus/RTU Protocol

ADAM-5000 commands are in ASCII format. ADAM applications can be written in any high-level language that supports ASCII string functions, such as C, Pascal or BASIC. ASCII support means you can use virtually any computer to manage your ADAM network.

Furthermore, the Modbus/RTU protocol is supported for connecting to 3rd party controllers.

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