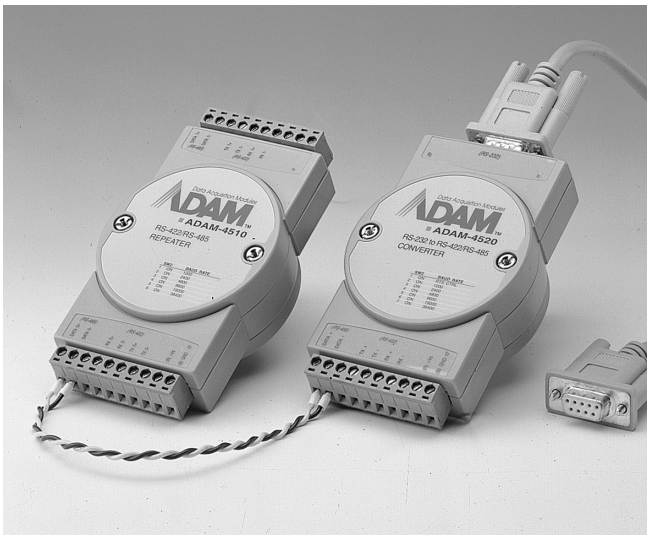
ADAM-4510 / 4510S / 4520 / 4522

General/Isolated RS-422/485 Repeater Isolated/ General RS-232 to 422/485 Converter



Features

- Automatic internal RS-485 bus supervision
- No external flow control signals required for RS-485
- 3000 V_{DC} isolation protection (ADAM-4510S/4520)
- Transient suppression on RS-485 data lines
- Speeds up to 115.2 Kbps
- Networking up to 4000 feet
- Reserved space for termination resistors
- Power and data flow indicator for troubleshooting
- Power requirement: +10 to +30 V_{DC}
- Mounts easily on a DIN-rail or panel

Introduction

Most industrial computer systems come with standard RS-232 serial ports. Though widely accepted, RS-232 has limited transmission speed, range, and networking capabilities. The RS-422 and RS-485 standards overcome these limitations by using differential voltage lines for data and control signals. The ADAM-4520/4522 converter lets you take advantage of RS-422 and RS-485 on systems originally equipped with RS-232. It transparently converts RS-232 signals into isolated RS-422 or RS-485 signals. You do not need to change your PC's hardware or your software. The ADAM-4520/4522 lets you easily build an industrial grade, long distance communication system with standard PC hardware.

The ADAM-4510/4510S repeater simply amplifies, or boosts, existing RS-422/485 signals to enable them to cover longer distances. It extends the communication distance by 4000 ft. (1200 m) or increases the maximum number of connected nodes by 32.

An RS-485 network with Automatic Data Flow Control using RS-232 Software

The RS-485 standard supports half-duplex communication. This means that a single pair of wires is used to both transmit and receive data. Handshaking signals such as RTS (Request To Send) are normally used to control the direction of the data flow. A special I/O circuit in the ADAM-4510/4510S and ADAM-4520/4522 automatically senses the direction of the data flow and switches the transmission direction. No handshaking signals are necessary—you can build an RS-485 network with just two wires. This RS-485 control is completely transparent to the user. Software written for half-duplex RS-232 works without modification.

Specifications

- **Power requirement**: Unregulated +10 ~ +30 V_{DC} . Module protected from power reversals
- **Case**: ABS with captive mounting hardware
- **Accessories (supplied)**: ABS DIN-rail mounting adapter, SECC panel mounting bracket
- **Plug-in screw terminal wiring**: Accepts AWG 1- #12 or 2- #14 ~ #22 (0.5 to 2.5 mm^2) wires
- **Operating temperature:** -10 to 70° C (14 to 158° F)
- **Dimensions:** 60 mm x 120 mm (2.36" x 4.41")

ADAM-4510/4510S

- **Transmission speed (bps)**: 1200, 2400, 4800, 9600, 19.2 K, 38.4 K, 57.6 K, 115.2 K (switchable)
- **Isolation voltage**: 3000 V_{DC} (ADAM-4510S only)
- **RS-422/RS-485 interface connector**: Plug-in screw terminal
- **Power consumption**: 1.4 W

ADAM-4520/4522

- **Transmission speed (bps)**: 1200, 2400, 4800, 9600, 19.2 K, 38.4 K, 57.6 K 115.2 K, RTS control and RS-422 mode (switchable)
- **Isolation voltage**: 3000 V_{DC} (ADAM-4520 only)
- **RS-232 interface connector**: Female DB-9
- **RS-422/RS-485 interface connector**: Plug-in screw terminal
- **Power consumption**: 1.2 W

Ordering Information

- ❑ **ADAM-4510:** RS-422/RS-485 repeater
- ❑ **ADAM-4510S:** Isolated RS-422/RS-485 repeater
- ❑ **ADAM-4520:** Isolated RS-232 to RS-422/485 converter
- ❑ **ADAM-4522:** RS-232 to RS-422/485 converter