



# JED MICROPROCESSORS PTY. LTD.

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The J995A is a small RS232 to RS485 converter designed for industrial and commercial applications where RS485 is used because of its reliable long range of communications, high speed, multi-drop and differential transmission mode via simple twisted-pair cable.

The input to the device is usually from a PC or some other controller or remote node with an RS232 interface. Two 16-pin connectors are provided for user cables with pinouts to match both a D25 DTE and a D25 DCE standard pinout. A ribbon cable crimped into a 16-pin IDC connector will match the pinout of the D25 in either case.

The RS232 side of the J995A is powered from the RS232 signals by full-wave rectification of the signal and control lines. A HIGH DTR or DSR line is needed to power the positive side, and a TX signal input can power the negative side of the return line during reception of data.

Two opto-isolators couple data, one in each direction. There is a third opto-isolator for the RTS line, and this line is used to control the TX-on function.

## RTS-controlled TX-On.

In an RS485 network, many nodes share one cable pair, and it is necessary for a node only to drive the cable during the period when data is to be transmitted

A HIGH on the RS232 RTS line (>+3volts) turns the RS485 transmitter ON, transmitting data on the RS485 network. It is necessary for the communications software to turn on the transmitter for only the period of time corresponding to the length of each byte, including the start bit and however many parity, address and stop bits are in the byte.

## RS485 options.

The RS485 interface can be either four-wire (plus ground) or two-wire (plus ground). Links allow the paralleling of TX and RX lines to convert from four to two wire modes.

## J995A RS232 to RS485 opto-isolated converter with RTS-switched TX

- Multidrop RS485 cable can communicate and power a run of 128 modules down one cable.
- Compatible with D25 DTE or DCE.
- TX-On controlled by RTS line on incoming RS232 cable.
- One of family of JED RS232/RS485 converters. Others are 240V powered or from 5 volts from the CPU via a 10way IDC cable.

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Jumpers can also be installed to terminate the RS485 TX and RX lines with 120 ohm resistors: normally this is done at either end of a cable run. Jumpers can also be installed to bias the RS485 line, so that an open or tri-state line assumes the same polarity as the STOP bit of an asynchronous transmission.

Another jumper can be installed to disable the receiver drive to the RS232 line during transmission from this particular station.

LEDs are installed in both the TX and RX paths to verify correct operation and line connections.

The RS485 side is powered by an external power source through a low-drop-out linear regulator. Two screw terminals terminate the power cable from a plug-pack, and the voltage needed is 5.5 to 12 volts DC at 100 mA.

The case is 100mm by 50mm by 25mm.

