



# JED MICROPROCESSORS PTY. LTD.

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The J995X 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.

A third, 10-pin IDC connector is provided to mate with a PC's D9 RS232 connector via a 10-way ribbon cable, with no null modem cable needed.

The RS232 side of the J995X 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 no opto-isolator for the RTS line, and this line is not used in this automatic device.

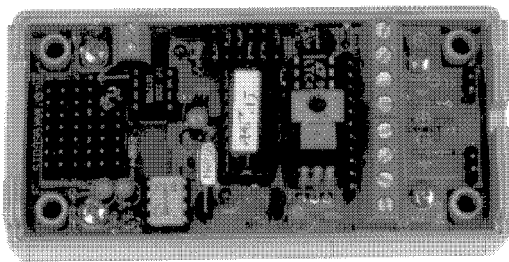
## Microprocessor-controlled TX-On.

Data through the input opto-isolator triggers a precise time delay in the PIC microprocessor which matches the exact length of the byte being transmitted, shortened by 2% to allow for mis-match of transmit clock speeds.

Users need to set up the baud rate by setting four baud-rate jumpers. These select baud rates as follows: 300, 600, 1200, 2400, 4800, 9600, 19200, 38400, 57600, 76800, 115200.

Two other jumpers select the bit count in the word. these can be 9, 10 or 11 bits long (for parity bit, 1 or 2 stop bits, or an address flag in 8051 multi-drop mode).

All delays are crystal locked.



## J995X RS232 to RS485 opto-isolated converter with automatic TX-On

- Multidrop RS485 cable can communicate and power a run of 128 modules down one cable.
- Compatible with D25 DTE or DCE and PC D9.
- Automatic TX-On controlled by crystal-locked microprocessor eliminates need for special software in computer to control TX-On function.
- One of family of JED RS232/RS485 converters. Others are 240V powered or from 5 volts from the CPU via a 10way IDC cable.

## 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.

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.

(A connector location is provided on the RS232 side, so that if a DTR/DSR line is not available, this side can also be powered from an external plug-pack.)

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

