

# **JDAM-9530**

## **Isolated USB to RS-232 / RS-422 / RS-485 Converter**

### **USER'S MANUAL (V1.0)**

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# 1. Introduction

The JDAM-9530 is a stackable USB to RS-232/RS-422/RS-485 converter that provides an easy way to connect serial devices to personal computer via USB port. The RS-232 interface supports full-duplex communication and provides CTS and RTS for hardware handshaking. The RS-485 control is transparent to application softwares written for half-duplex COM port communications. The JDAM-9530's Opto-isolators provide 3000 Vdc of isolation to protect the host computer from ground loops and destructive voltage spikes on the RS-232/RS-422 and RS-485 data lines. The JDAM-9530 has built in surge-protection on each data line that protect the module from destructive voltage spikes. The JDAM-9530 module is USB bus powered and no external power is needed.

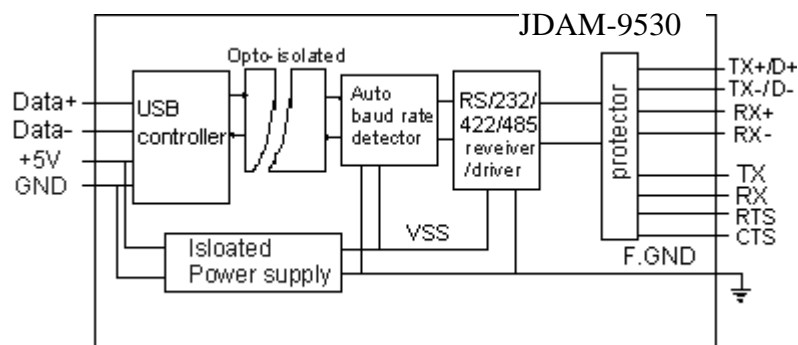
## 2. Features

- ◆ USB 1.1 Compliant
- ◆ Auto data flow direction detection on RS-485
- ◆ Full-duplex RS-232/RS-422 support
- ◆ RS-232 RTS & CTS signals support
- ◆ Minimum 3000 VDC isolation protection
- ◆ Transient suppression on RS-485 data lines
- ◆ Automatically switch USB signal to RS-232/RS-422 or RS-485 (jumperless)
- ◆ Auto baud rate detection up to 115.2 Kbps
- ◆ Reserved space for termination resistors R1(TX/DATA), R2(RX)
- ◆ Power and activity indicator for troubleshooting
- ◆ Driver support for Windows 95/98/ME/2000/XP, Linux
- ◆ Power requirement: USB bus power
- ◆ Mounts easily on DIN-rail or panel

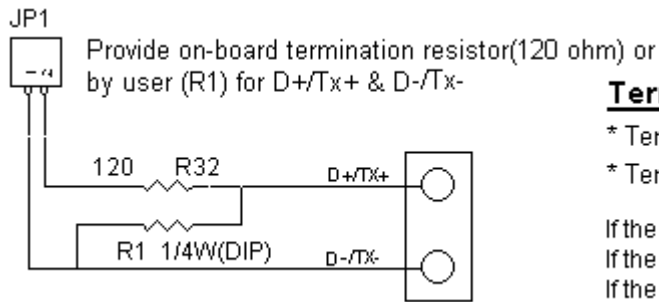
### 3. Specifications

- ◆ USB Controller: USB 1.1
- ◆ USB interface connector: USB type B
- ◆ Isolation Side: RS-232/ 422/485
- ◆ Converted signals: RS-232/RS-422 or RS-485 Auto switching (jumperless)
- ◆ Handshake: RS-232 RTS & CTS
- ◆ Auto Baud rate (bps): 300 ~115.2 K BPS
- ◆ Data activity LED indicator
- ◆ Isolation voltage: 3000 V DC
- ◆ RS-232/RS-422/RS-485 connector: plug-in screw terminal
- ◆ Accessories (Supplied): NYLON DIN-rail Mounting Adapter SECC Panel Mounting Bracket
- ◆ Plug-in screw terminal wiring: Accepts AWG 1-#12 to #22 (0.5 to 2.5 mm) wires
- ◆ Power requirement: USB bus power
- ◆ Case: ABS with captive mounting hardware
- ◆ Power consumption: 0.65 W
- ◆ Operating temperature:0 ~ 70 °C (32 ~ 158 °F)
- ◆ Storage temperature:-25 ~ 95 °C (13 ~ 195 °F)
- ◆ Humidity: 5 ~ 95%, non-condensing

### 4. Block diagram



## 5. RS-422 / 485 Termination Resistor

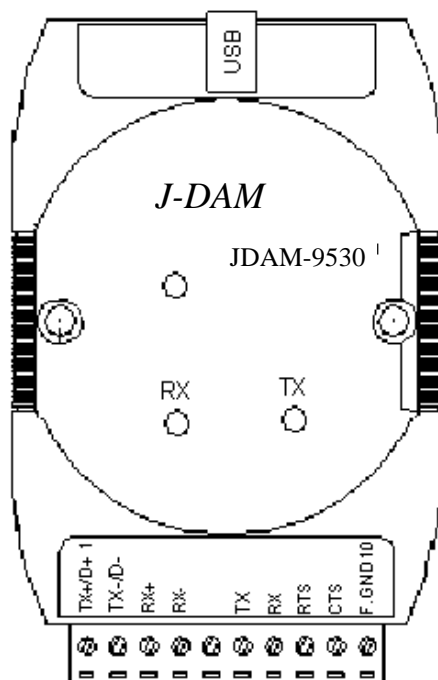


### Termination Resistor

- \* Termination resistor "R1" for D+/Tx+ & D-/Tx-
- \* Termination resistor "R2" for RX+/RX-

If the length of RS-485 is about 1.2KM,try 120 ohm first.  
 If the length of RS-485 is about 600M,try 220 ohm first.  
 If the length of RS-485 is about 300M,try 330 ohm first.

## 6. Connection



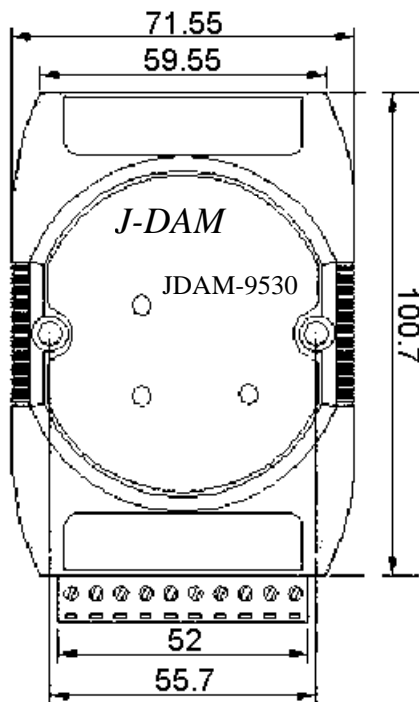
### Pin Definitions

| Pin No. | Name   | Description                                  |
|---------|--------|--|
| 1       | TX+/D+ | RS-422 or RS-485 transmission line, positive |
| 2       | TX-/D- | RS-422 or RS-485 transmission line, negative |
| 3       | RX+    | RS-422 receive line, positive                |
| 4       | RX-    | RS-422 receive line, negative                |
| 5       | NC.    |  |
| 6       | TX     | RS-232 transmission line                     |
| 7       | RX     | RS-232 receive line                          |
| 8       | RTS    | RS-232 Request to send line                  |
| 9       | CTS    | RS-232 Clear to send line                    |
| 10      | F.GND  | Ground                                       |

### USB Type B connector

|   |       |                         |
|---|-------|-------------------------|
| 1 | +5V   | USB +5VDC bus power     |
| 2 | Data- | USB Data line, Negative |
| 3 | Data+ | USB Data line, Positive |
| 4 | GND   | USB bus power ground    |

## 7. Dimensions



Dimensions are shown in mm

## 8. Windows 98 USB Driver Installation

- ◆ Plug the JDAM-9530 into the computer USB port or a USB Hub
- ◆ Open Control Panel.
- ◆ Select Add New Hardware Wizard icon.
  - The 'Add New Hardware Wizard' appears, Press 'Next' button.
  - In the dialog box that comes up, leave the default choice, (Search for the best drivers for your device), Press 'Next' button.
  - .In the dialog box that comes up, leave the default choice, (Floppy disk drivers), Press 'Next' button.
  - In the dialog box that comes up, leave the default choice, (The update driver), Press 'Next' button.
  - In the dialog box that comes up, Press 'Next' button. (Window driver file search for the device)
  - Dialog box appears to tell you that the installation has finished, Press 'Finish' button.
- ◆ Now you have installed JDAM-9530 on your system, you can see a new USB serial device in 'Control->Device Manager'. The JDAM-9530 acts as a standard COM port and is transparent to any UART application software