EDAM-8531
Isolated USB to RS-485 & RS-422(TX,RX,RTS,CTS) Converter

Introduction

The EDAM-8531 is a stackable USB to RS-422/RS-485 converter that provides an easy way to connect serial devices to personal computer via USB port. The RS-422 interface supports full-duplex communication and provides CTS and RTS for hardware handshaking.The RS-485 is transparent to application softwares written for half-duplex COM port communications. The EDAM-8531's Opto-isolators provide 3000 Vdc of isolation to protect the host computer from ground loops and destructive voltage spikes on the RS-422/485 data lines. The EDAM-8531 also has built in surge-protection on each data line that protect the module from high voltage spikes. The EDAM-8531 module is USB bus powered and no external power is needed.
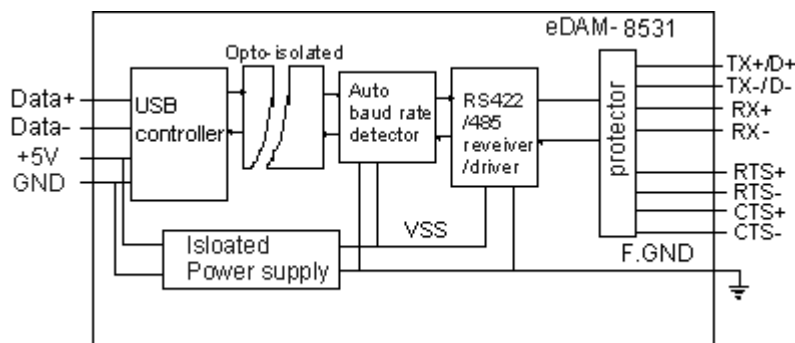
Features

• USB 1.1 Compliant
• Auto data flow direction detection on RS-485
• Full-Duplex RS-422 support
• RTS & CTS handshake signals support for RS-422
• Minimum 3000 VDC isolation protection
• Transient suppression on RS-485 data lines
• Automatically switch USB signal to to 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),R3(CTS),R4(RTS)
• 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

Specifications:

• USB Controller: USB 1.1 compliant
• USB interface connector: USB type B
• Isolation Side: RS-422/485
• Converted signals: RS-422 or RS485 Auto switching(jumperless)
• Handshake: RS-422 RTS & CTS
• Auto Baud rate (bps):300 ~115.2 K BPS
• Data activity LED indicator
• Isolation voltage: 3000 V DC
• 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: 0.5 W
• Operating temperature:0 ~ 70 °C (32 ~ 158 °F)
• Storage temperature:-25 ~ 85 °C (13 ~ 185 °F)
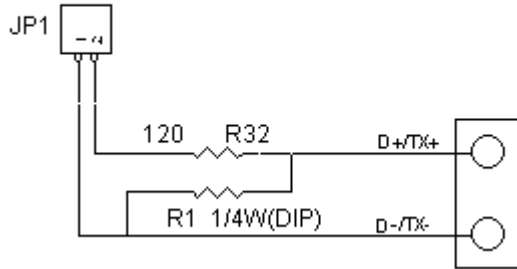• Humidity: 5 ~ 95%, non-condensing

Block diagram

EDAM-8531
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RS-422 / 485 Termination Resistor

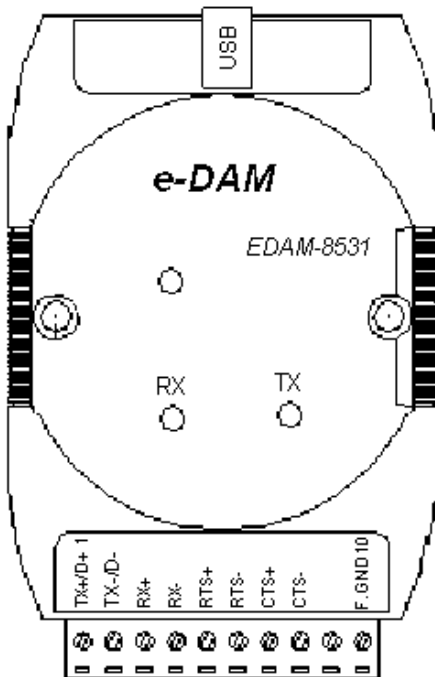Provide on-board termination resistor(120 ohm) or by user (R1) for D+/Tx+ & D-/Tx-

Termination Resistor

* Termination resistor "R1" for D+/Tx+ & D-/Tx-
* Termination resistor "R2" for RX+/RX-
* Termination resistor "R3 for CTS+/CTS-
* Termination resistor "R4" for RTS+/RTS-

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.

Connection

Pin Defiitions

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	RTS+	RS-422 Request to send line , positive
6	RTS-	RS-422 Request to send line , negative
7	CTS+	RS-422 Clear to send line , positive
8	CTS-	RS-422 Clear to send line , negative
9	NC.	
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

Windows 98 USB Driver Installation
· Plug the EDAM-8531 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)
  . Diaglog box appears to tell you that the installation has finished,
    Press 'Finish' button.
· Now you have installed EDAM-8531 on your system, you can see a new
  USB serial device in 'Control->Device Manager'. The EDAM-8531 acts as
  a standard COM port and is transparent to any UART application softwares.

Dimensions

71.55
59.55
100.7
52
55.7