

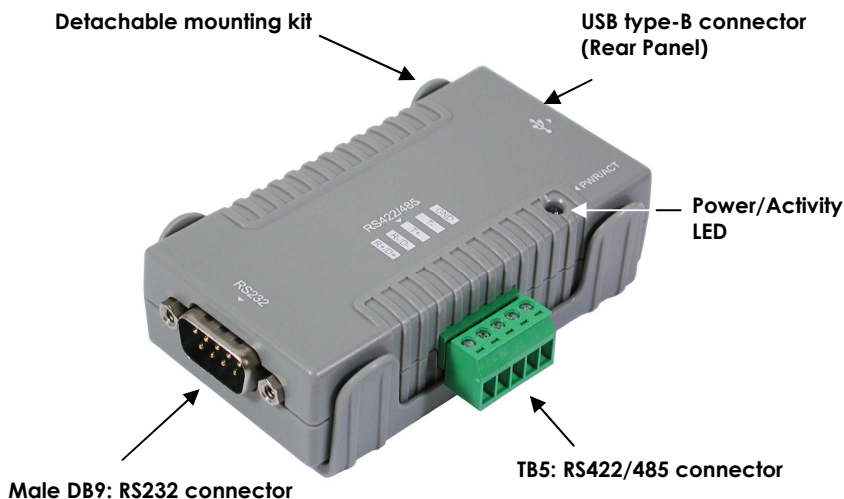
EX-1331VIS

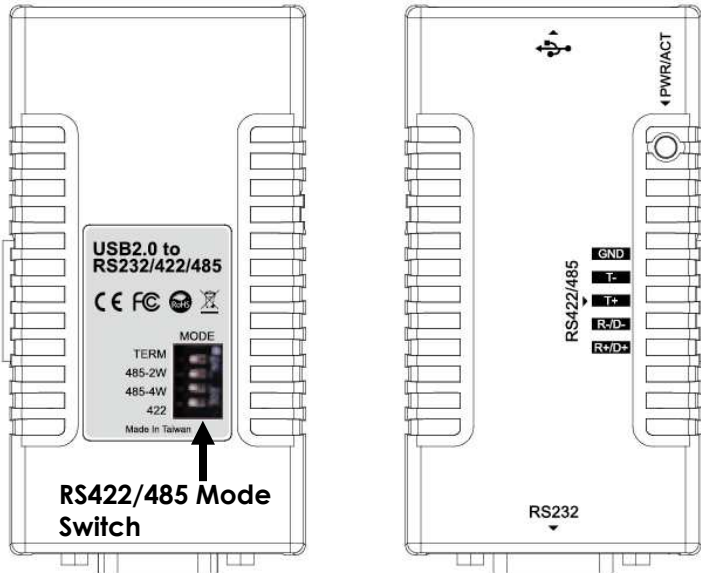
RS232/422/485 to USB2.0 Adapter, w/ Isolation and Surge Protection

1. Introduction

Thank you for purchasing this RS232/422/485 Combo Serial to USB Adapter (hereinafter referred to as “**Adapter**”). It is an intelligent expansion module that connects to a PC or server via the Universal Serial Bus (USB), providing high-speed serial connectivity. The serial ports are fully compatible with RS232/422/485 standard by the bundled virtual COM port drivers. With its flexible mounting options, it is an ideal solution for most critical applications.

2. Connector Layout





Features:

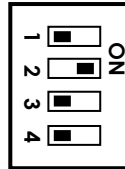
- ✓ Provides 1 RS232/422/485 Serial Ports over USB Port
- ✓ Provides 1 DSUB-9 Connector for RS232 and 1 TB-5 for RS422/485 signals
- ✓ Supports USB2.0 High Speed (480Mbps) Data Rate
- ✓ Supports USB Screw Lock Mechanism Enhances Reliability
- ✓ Baud Rate from 300 bps to 921.6Kbps
- ✓ Supports 7,8 Data Bits
- ✓ Odd, Even, Mark, Space, or None parity mode
- ✓ Supports 1, or 2 Stop Bits
- ✓ Supports USB Bus Power
- ✓ Supports 2,500Vrms Isolation and 15KV ESD Protection
- ✓ 4 Modes: RS232, RS422, 4-Wire and 2-Wire RS485
- ✓ Supports Win98, Me, XP, CE, Win2000, 2003, Vista and Windows 7 and 8

3. Mode Switch Settings

The **Adapter** has 2 connectors, one is DB9 male for RS232 port, the other is TB-5 for RS422/485 port, you can choose either of them but not both simultaneously. When you use TB-5, the RS422/485 operation mode is set by the 4-pin DIP switch on the back side of the **Adapter**.

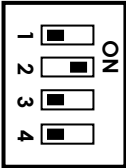
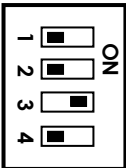
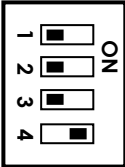
RS422/485 mode DIP switch:

Termination resistor enabler → TERM
 2-wire RS485 mode enabler → 485-2W
 4-wire RS485 mode enabler → 485-4W
 RS422 mode enabler → 422



The DIP switch pin 1 is used to enable/disable the 120Ω termination resistor between DATA+ and DATA- of the RS485 transceivers. The other 3 pins are used to enable RS485 2-wire, RS485 4-wire and RS422 modes respectively. Only one of the 3 mode pins can be set ON (enable) at the same time.

Mode Settings:

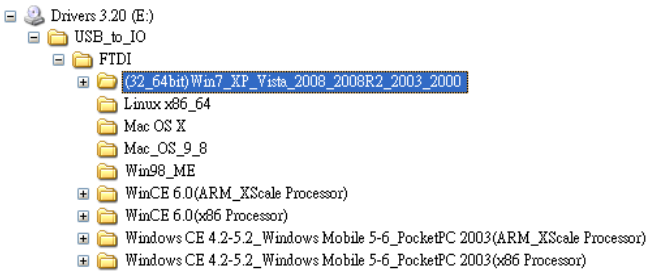
Switch Settings	Description
TERM 485-2W 485-4W 422 	RS485 2-wire mode (Default)
TERM 485-2W 485-4W 422 	RS485 4-wire mode
TERM 485-2W 485-4W 422 	RS422 mode

4. Installing Drivers

The **Adapter** can be hot-plugged to the USB port of your computer due to the specifications of USB. It supports the following operating systems. The drivers are shipped in the following folder on the supplied driver CD.

1. Driver Locations on the CD

These instructions are for installing the drivers from the CD supplied with the product. If you are installing drivers for Win98, ME, 2000 or XP, when prompted for the location of the drivers, specify your CD-ROM drive and the locations according to the following table:



- | |
|--|
| <ul style="list-style-type: none"> ■ All Windows 32 and 64-bit ■ Linux 32 and 64-bit ■ Mac OS X ■ Mac OS 9.x, 8.x ■ Windows 98, 98SE, ME ■ Windows CE for ARM ■ Windows CE for i86 |
|--|

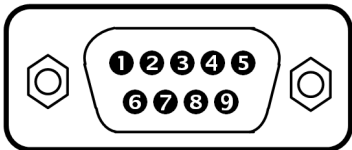
2. Installing Drivers for (32-bit and 64-bit) Win7, XP, Vista, 2008, 2003 and 2000:

- Insert the Driver CD supplied with the Adapter
- Run (or double click) the Installer Program (e.g. **CDM20824_Setup.exe**) in the following folder of the driver CD:

\\USB_to_IO\FTDI\ (32_64bit)Win7_XP_Vista_2008_2008R2_2003_2000

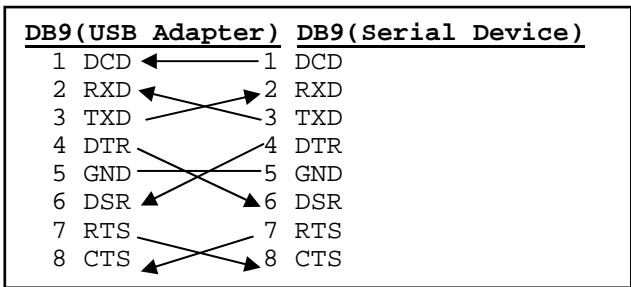
- Follows the instructions of the installer program to complete the setup procedures.
- Plug the **Adapter** will hook the drivers into the Windows kernel automatically.
-

5. RS232 Male-DB9 Pin Assignment and Wiring



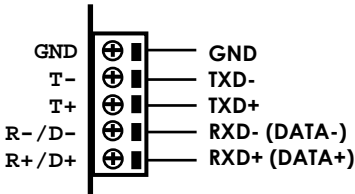
<u>9 Pins</u>	<u>Signal</u>
1	DCD
2	RXD
3	TXD
4	DTR
5	GND
6	DSR
7	RTS
8	CTS
9	NC

DB9(Male) RS232 to DB9(Male) RS232 Wiring

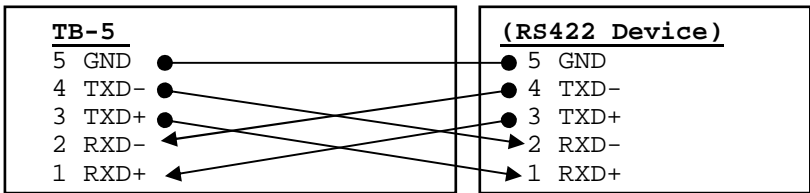


6. RS422/485 TB-5 Pin Assignment and Wiring

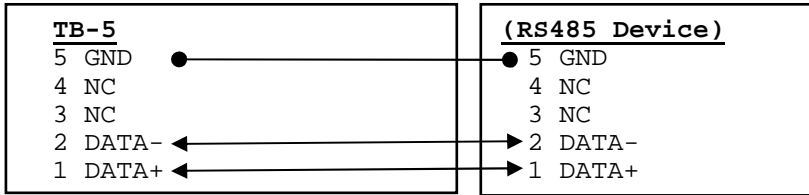
5-pin Terminal Blocks (TB-5) Pin Assignment:



TB-5 RS422 Cable Wiring:



RS485 (2-wire) Cable Wiring:



7. Specifications

Type	Specifications
Connectors	Upstream USB: Type-B DB9 male: RS232 TB-5: RS422/485
Cable	USB2.0 Standard/Screw-Lock-Type Cable
Bus Interface	USB2.0
Number of Ports	1 (RS232 or RS422/485)
RS232 Signals	DCD, TXD, RXD, RTS, CTS, DTR, DSR, GND
RS485 2-wire mode	DATA+, DATA-, GND
RS485 4-wire and RS422 modes	TX+, TX-, RX+, RX-, GND
Baud Rate	110 bps to 921.6Kbps
Data Bits	5,6,7,8,9
Stop Bits	1, 1.5, 2
I/O address/IRQ	Plug-and-Play (various)
Parity	None, Even, Odd, 1, 0
Operating Temperature	0 to 55°C(32 to 132°F)
Operating Humidity	5 to 95% RH
Storage Temperature	-20 to 85°C (-4 to 185°F)
Power Consumption	5V/0.2A max.