User Manual

USB to Serial Multi-port HUB

Version 1.1

⬤ Introduction

With USB to Serial series product connect to your computer, no longer would the usage of a serial (RS-232, RS-422/485) device be restricted by the availability of the connectable ports on the desktop, laptop or work station system. Users now have the ability to convert the connection of their serial peripherals into USB (Universal Serial Bus) compatible without making any changes to the applications written for them. The adapter is compatible with both USB 2.0 and 1.1 specifications. The USB Full Speed connection offers data transfer rate up to 12Mbps and each serial port provides transmission rate up to 115.2Kbps.

USB to Serial series product utilized the high quality I/O chipset, which had passed the Microsoft WHQL certification as well it is the most compatible and the most reliable. It supports both bus power on external power via an adapter.   Bus power is adapted for laptop or workstation connections that support 500 mA output for USB devices.

USB to serial Hub series come with the choice of 1, 2, 4 and 7 ports in RS-232 or RS422/485 for connection with devices such as barcode scanner, POS device, PDA, printer, and other mobile devices. We offer the most complete line of USB to I/O Adapter for all your connection needs!!

⬤ Features

- Expand 1, 2, 4 and 7 ports RS-232 or RS-422/485 through USB
- Plug-n-Play and Hot-Swapping
- No IRQ, DMA, I/O address resource required
- Supports USB1.1 full speed 12Mbps and USB2.0 compatible
- Each serial port provides transmission rate up to 115.2Kbps
- Supports both USB bus power and external power
- Auto Identify and Switch RS-422/485 technology, Jumper-free configuation
- Support RS-485 Auto RTS Signal Control (ARSC™) technology
- Support Windows 98 / ME / 2000 / XP / 2003 and Linux Driver

⬤ Package List

Please check if the following items are present and in good condition upon opening your package. Contract your vendor if any item is damaged or missing.

- USB to Serial Multi-port Hub
- USB A to B Cable
- DB62 to 7 serial ports cable (7 ports USB to Serial Hub only)
- User Manual (this document) and CD Driver

Optional Accessories

- Power Adapter: DC 5V / 1A ⊖─●─⊕

Usually the USB hub gets its power from the computer, but if large or power demand peripherals are connected, the bus power might not be sufficient, and may result in erratic operation. In this case, a DC Power Adapter should be used.

⬤ RS-232 Specification

■ Function

Model	USB to RS-232 Multi-port Hub
Mode of Operation	HandShaking
BUS Transceivers	RS-232 Full-Duplex
Drivers per Line	RS-232 1 Driver
Receivers per Line	RS-232 1 Receiver

■ Hardware

IC	Prolific 2303HX
Controller	16C550 Compatible UART
Bus Interface	Universal Serial Bus (USB)
Power	Bus-power & Self-power
Number of Ports	1, 2, 4, or 7 ports (USB to RS-232 Product Family)
Connector	DB9 or Db25 Male
Dimension (mm) (WxDxH)	180 x 70 x 26 (4 & 7 ports Housing) 75 x 46 x 23 (1 & 2 ports Housing)

■ Communication

IRQ & IO Address	Assigned by BIOS
FIFO	16byte hardware FIFO
Baud Rate	75 ~ 115,200bps
Data bit	5, 6, 7, 8
Stop bit	1, 1.5, 2
Parity	Even, Odd, None, Mark, Space
Flow Control	None, Xon/Xoff, HardWare
RS-232 Signal	TxD, RxD, RTS, CTS, DTR, DSR, DCD, RI, GND
LED	Red for TxD, Green for RxD, Orange for Full -Duplex

■ Driver Support

Microsoft Windows	Windows 98 / ME / 2000 / XP / 2003
Linux	Linux 2.2.x, 2.4.x

■ Regulatory Approvals

Hardware	CE, FCC
Software	Microsoft WHQL

■ Operation Environment

Operation Temperature	0℃ ~ 57℃
Operation Humidity	5 ~ 95 % RH
Storage Temperature	-20℃ ~ 85℃

⬤ RS-422/485 Specification

■ Function

Model	USB to RS-422/485 Multi-port Hub
Mode of Operation	Differential
BUS Transceivers	RS-422 Full-Duplex RS-485 Half-Duplex
Drivers per Line	RS-232 1 Driver RS-485 32 Drivers
Receivers per Line	RS-422 10 Receivers RS-485 32 Receivers

■ Hardware

IC	Prolific 2303HX
Controller	16C550 Compatible UART
Bus Interface	Universal Serial Bus (USB)
Power	Bus-power & Self-power
Number of Ports	2, 4, or 7 ports (USB to RS-422/485 Product Family)
Connector	DB9 / 25 Male or MiniBlock
Dimension (WxDxH)	180 x 70 x 26 (mm)

■ Communication

IRQ & IO Address	Assigned by BIOS
FIFO	16byte hardware FIFO
RS-485 Signal	ARSC™ Techonlogy for RS-485
RS-422/485 Select	Auto Detect & Switch RS-422 and RS-485
Baud Rate	75 ~ 115,200bps
Data bit	5, 6, 7, 8
Stop bit	1, 1.5, 2
Parity	Even, Odd, None, Mark, Space
Flow Control	None, Xon/Xoff, HardWare
RS-422 Signal	TxD+/-, RxD+/-, RTS+/-, CTS+/-, GND
RS-485 Signal	Data+/-, RTS+/-, CTS+/-, GND
LED	Red for TxD, Green for RxD, Orange for Full -Duplex

■ Driver Support

Microsoft Windows	Windows 98 / ME / 2000 / XP / 2003
Linux	Linux 2.2.x, 2.4.x

■ Regulatory Approvals

Hardware	CE, FCC
Software	Microsoft WHQL

USB to Serial Multi-port HUB

⬤ Driver Installation

▪ **Windows 98 / ME / 2000 / XP / 2003**

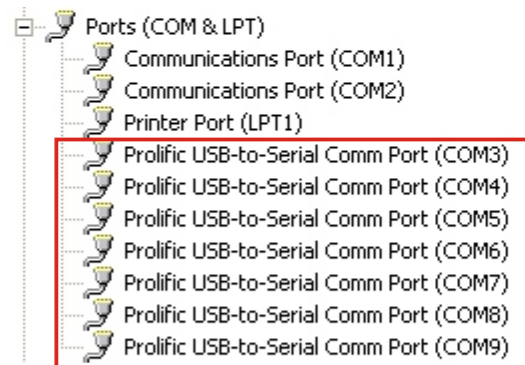In order to ensure proper operation of your USB to Serial Multi-port Hub, please follow the instructions below.

1. Please insert the CD driver into your CD/DVD ROM.
2. Click the **Setup.exe** from your CD/DVD device

   : \ USB \ USB to IO \ Setup.exe   *Setup*

3. Follow the onscreen installation step.
4. After finishing installation, please connect the USB Serial Hub to your PC.
5. Please check to see if each is installed properly in Device Manager.

Start > Controller Panel > System > Device Manager

Ports (COM & LPT)
- Communications Port (COM1)
- Communications Port (COM2)
- Printer Port (LPT1)
- Prolific USB-to-Serial Comm Port (COM3)
- Prolific USB-to-Serial Comm Port (COM4)
- Prolific USB-to-Serial Comm Port (COM5)
- Prolific USB-to-Serial Comm Port (COM6)
- Prolific USB-to-Serial Comm Port (COM7)
- Prolific USB-to-Serial Comm Port (COM8)
- Prolific USB-to-Serial Comm Port (COM9)

The number of COM ports will depend on what products you bought

▪ **Linux**

We provide Linux 2.2.x and 2.4.x kernel, including RedHat version 7.3, 8 and 9.
1. Please insert the CD driver into your CD/DVD ROM.
2. Please check the individual folder as the following location from your CD/DVD
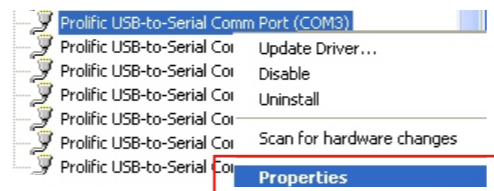
   *: \ USB \ USB to IO \ Linux *

NOTE:
Please visit chipset vendor ~ Prolific web site (http://www.prolific.com.tw) to get the latest driver.
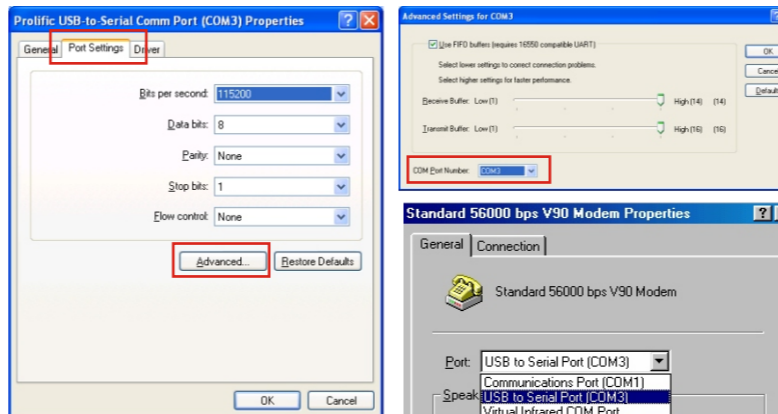
⬤ Port Setting

After installing USB to Serial Multi-port Hub successfully, you can modify the setting for each port in device manager.
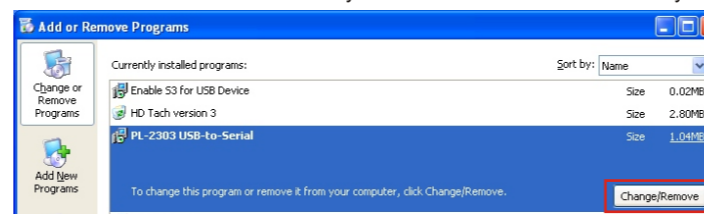1. Right click your mouse on the COM port, and select "**Properties**".

Prolific USB-to-Serial Comm Port (COM3)
Prolific USB-to-Serial Co... Update Driver...
Prolific USB-to-Serial Co... Disable
Prolific USB-to-Serial Co... Uninstall
Prolific USB-to-Serial Co...
Prolific USB-to-Serial Co... Scan for hardware changes
Prolific USB-to-Serial Co...
Prolific USB-to-Serial Co... **Properties**

2. Select "**Port Setting**" page to modify COM port setting.
3. Select "Advanced" icon, you can modify COM port number and FIFO.

4. When serial device requires setting to a specific COM number, confirm the port number match the settings required for your serial device. Note that Under Windows 98, you will not be able to change the COM port number. You need to use the default COM port number assigned by the OS.
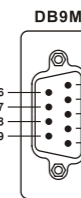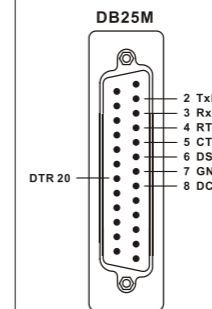
⬤ Uninstalling Driver

Using "Add or Remove program" in the control panel, and select "PL2303 USB to Serial" then click "Unstall". System will uninstall automatically.
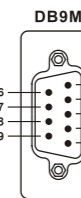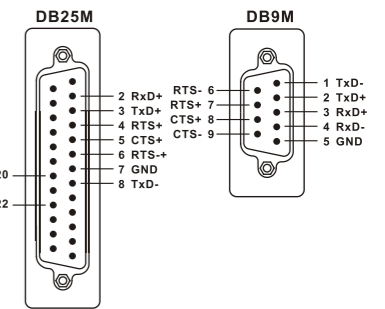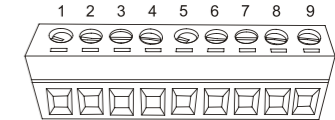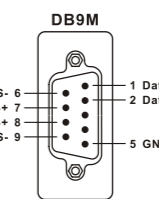
⬤ Pin Assignment

• **RS-232**

DB25M   DB9M
2 TxD   DSR 6   1 DCD
3 RxD   RTS 7   2 RxD
4 RTS   CTS 8   3 TxD
5 CTS   RI 9   4 DTR
6 DSR   5 GND
7 GND
8 DCD
DTR 20

• **RS-422**

DB25M   DB9M
2 RxD+   RTS- 6   1 TxD-
3 TxD+   RTS+ 7   2 TxD+
4 RTS+   CTS+ 8   3 RxD+
5 CTS+   CTS- 9   4 RxD-
6 RTS-+   5 GND
7 GND
8 TxD-
RxD- 20
CTS- 22

• **RS-485**

DB25M   DB9M
3 Data+ RTS- 6   1 Data-
4 RTS+   RTS+ 7   2 Data+
5 CTS+   CTS+ 8
6 RTS-   CTS- 9   5 GND
7 GND
8 Data-
CTS- 22
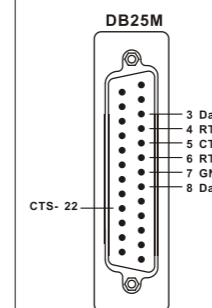
	RS-422	RS-485		RS-422	RS-485
1	TX +	D+	6	RTS+	RTS+
2	TX -	D-	7	RTS -	RTS -
3	RX+		8	CTS+	CTS+
4	RX -		9	CTS -	CTS -
5	GND				

⬤ FAQ

1. The USB to Serial Hub will NOT communicate with my serial device.
A: (1) Please verify that the USB to Serial Hub is installed correctly.
   (2) Confirm that the port settings match the settings required for your serial device.
   (3) If the serial device requires software, make sure it's installed properly.
   (4) Make sure the number of ports is matching the number of USB to Serial Hub COM port.
   (5) USB to Serial Hub does NOT support serial mouse.
   (6) Please download the latest driver to support your new serial product.

2. Why is it that when using USB to Serial Hub under Windows XP, the OS loading is sometimes around 45%?
A: This problem is a common characteristic that appears when using USB devices under Windows XP.

3. Why the COM port number will different under Windows 2000 and XP?
A: The COM port number is assigned by which USB slot is used to connect to the computer. If changing USB slot, the port number will change.