User’s Manual
USB to RS-422 & RS-485 Converter

Contents:

Introduction

This converter is designed to make massive data communication become quick and simple through an USB port of PC. By taking the advantage of the feature of USB port and Serial port, it provides an easier and more convenient connectivity than ever for efficient and friendly interaction between RS-422 or RS-485 devices and your computer systems.

The interface of RS-422 and RS-485 are very common adopted in data acquisition world. Both standards feature reliable performance of full-duplex or half-duplex multi-drop communication network with faster data rates and longer communication distance than RS-232. Application devices include telecommunication units, LAN, data concentration, data multiplexers, ISDN, POS, industrial controls, etc.

Features

- Connectivity of RS-422 or RS-485 devices and PC through USB port
- Short Circuit and over-current protection
- Plug and play and hot-swapping
- No external power supply is required
- Supports data transmission at high rates over long distance (4,000 Ft.)
- Isolation protected
- Nullifies the effects of ground shifts and noise signals of the voltages on a network
- Supports USB 1.1 at full rate speed up to 12 Mbps
- Supports Windows 98/ME/2000/XP/VISTA, Mac OS 8.6/9.X/10.X and Linux

Specification

USB to DB-9

Model No.		UTS-485	UTS-422	UTS-M12	UTS-M14
Chipset		FTDI			
Interface		RS-485	RS-422	RS-422/RS-485	
Compliant USB Version		USB 1.1			
Data Speed		Min. 3 Mbps			
Selection Mode		Auto		Slide Switch	
Connector	Upstream	USB Type A Male			USB Type B Female
	Device	DB-9 Pin Male*1		DB-9 Pin Male*2	DB-9 Pin Male*4
Power Mode		Bus			
Cable Length		1M		0.6M	1.8M
Housing		PVC Molding		Plastic	Aluminum

USB to Terminal Block

Model No.		UTS-422TB	UTS-485TB
Chipset		FTDI	
Device Interface		RS-422	RS-485
Communication Mode		Full-duplex-Multi-drop	Half-duplex-Multi-drop
Compliant USB Version		USB 1.1	
Data Speed		Min. 3 Mbps	
Connector	Upstream	USB Type A Male	
	Device	Shield*1 and Terminal Block*4	
Power Mode		Bus	
Cable Length		1M	
Housing		Plastic	

USB to RJ-11

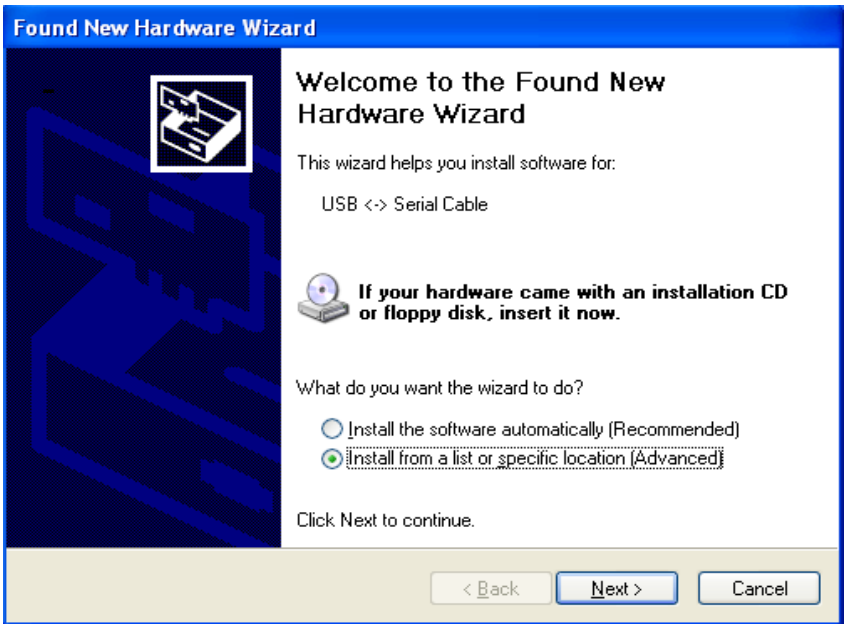
Model No.		UTS-200J2	UTS-200J5	UTS-200J
Chipset		FTDI		
Device Interface		RS-422	RS-485	RS-422/RS-485
Compliant USB Version		USB 1.1		
Data Speed		Min. 3 Mbps		
Selection Mode		Auto		Slide Switch
Connector	Upstream	USB Type A Male		
	Device	RJ-11 6P phone jack/Female*2		
Power Mode		Bus		
Cable Length		1M		
Housing		Plastic		

Driver Installation

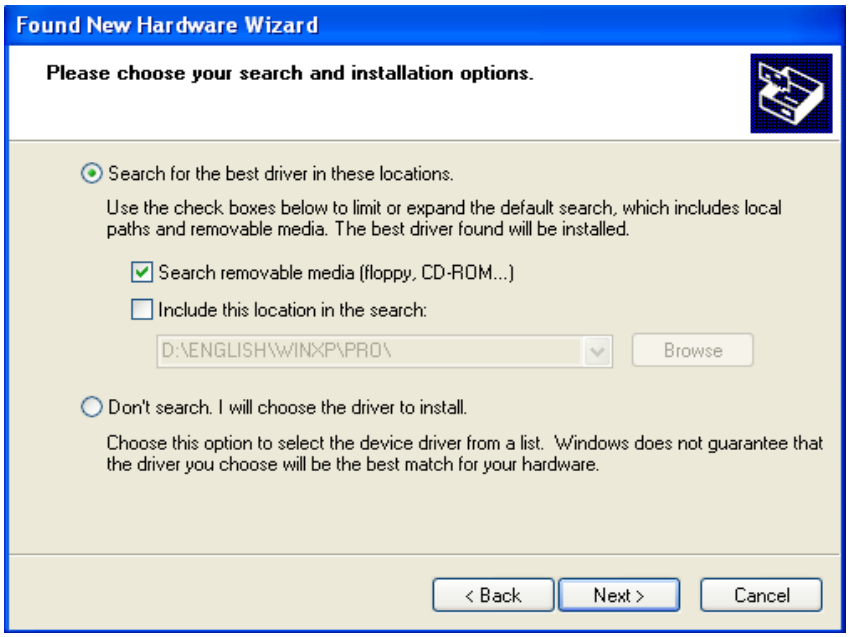
1. Please plug the UTS-422 or UTS-485 converter into the USB port of PC first.
2. Insert the driver CD into the CD-ROM drive of your computer. The setup program will begin to run automatically.
3. If it's the first time you install the driver of USB to Serial device, you will need to install the driver twice. One is for the device under Universal Serial Bus Controller; the other is for COM port.

You will be prompted by following screen dialogs to complete the work.

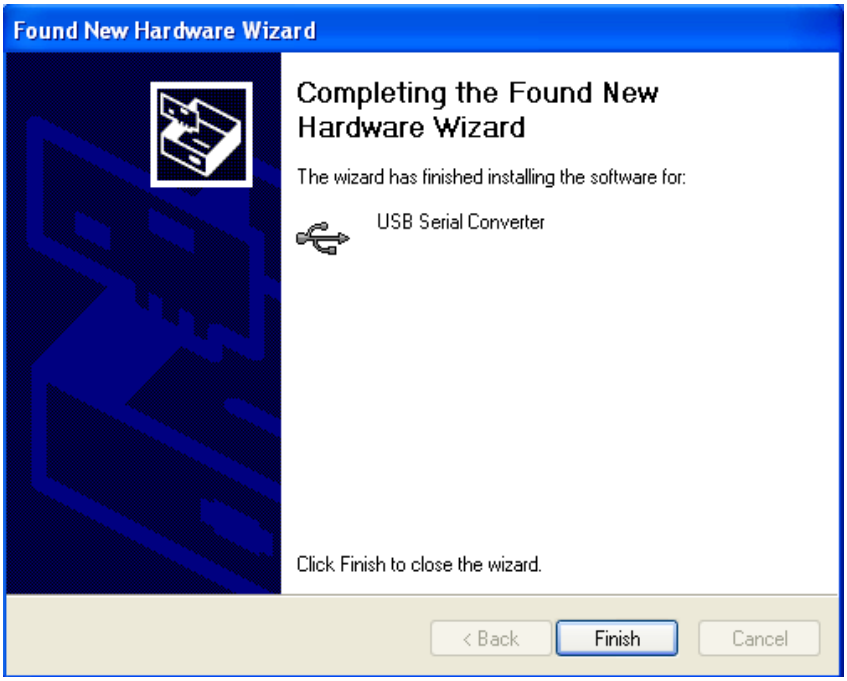
1. What do you want Windows to do?



2. Searching locations for new driver

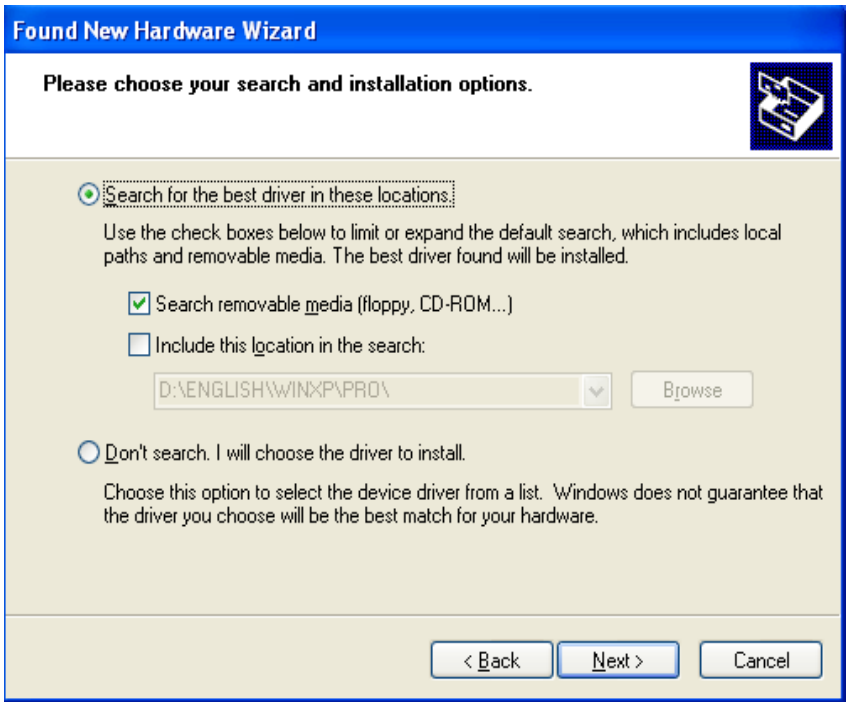


3. Windows has finished installing the software for USB Serial Converter



4. What do you want Windows to do?

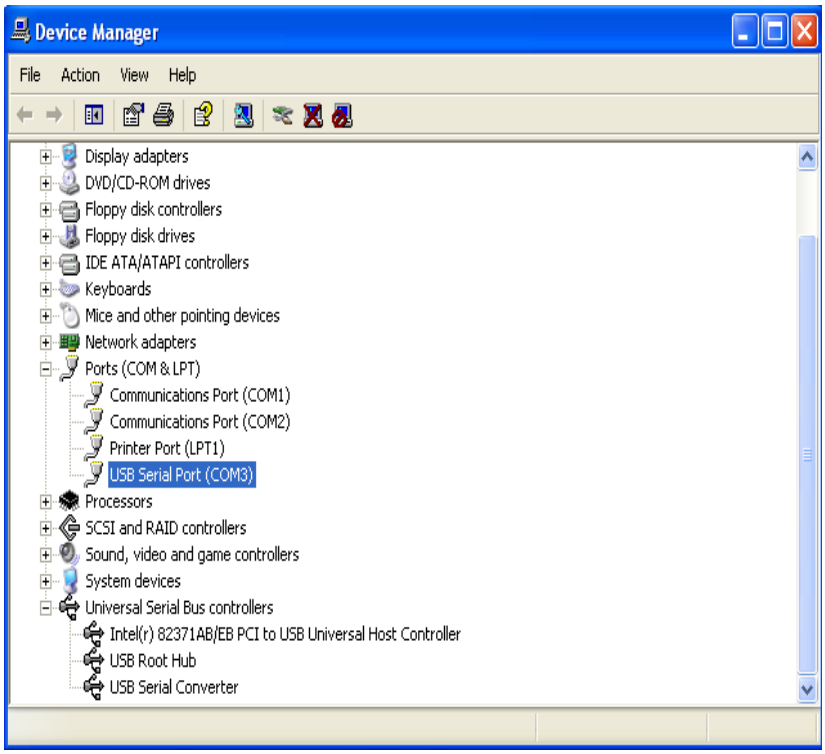
5. Searching locations for new driver



6. Windows has finished installing the software “USB Serial Port”

7. Make sure the driver installation is finished

Plug UTS-422 or UTS-485 unit into the USB port of the computer then click " Start " ->" Settings " -> " Control Panel " -> " System " ->" Device Manager " to see if there are " USB Serial Port (COM3)" under Ports (COM) and "USB Serial Converter " under Universal Serial Bus controllers.



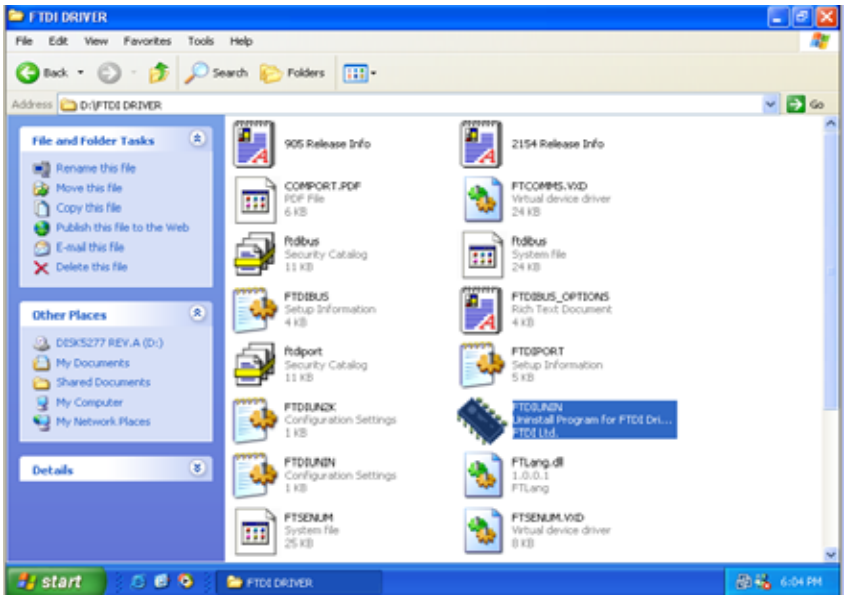
Note:

If you have any difficulties with the drivers we provided in this CD, you may download the updated or appropriate versions from FTDI Web site www.ftdichip.com/Drivers/VCP.htm, supported device “FT232BM”.

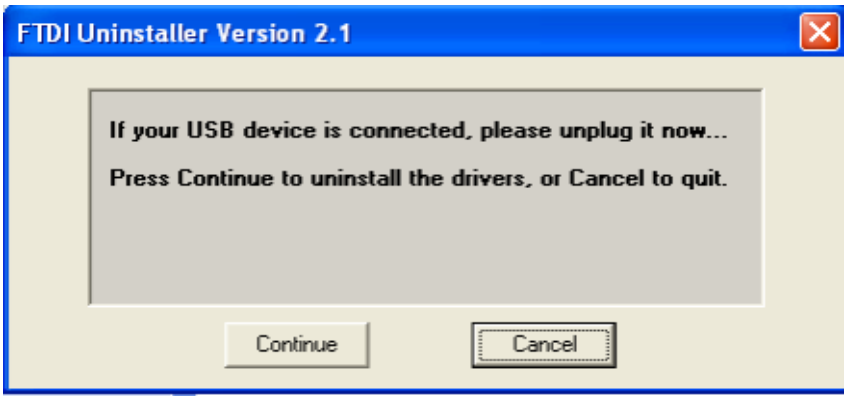
Removal of Driver Software

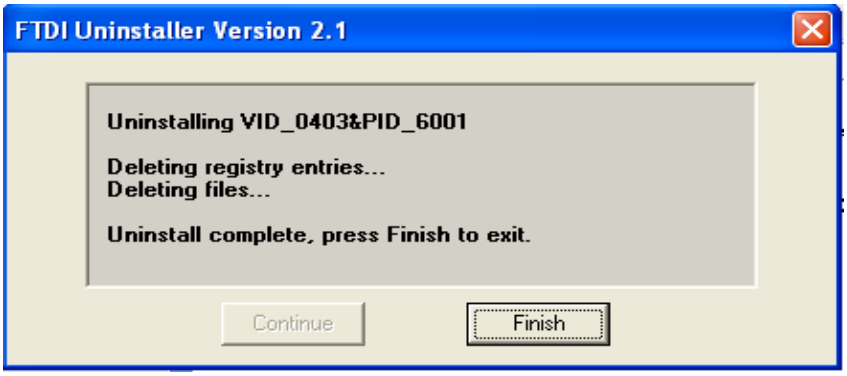
Place the driver CD into the CD-ROM disk drive of the computer first then find and execute file “FTDIUNIN.EXE” by following steps:

1. Execute FTDIUNIN.EXE program



2. Unplug UTS-422 or UTS-485 device, click “Continue” to uninstall the drivers then click “Finish” to exit.



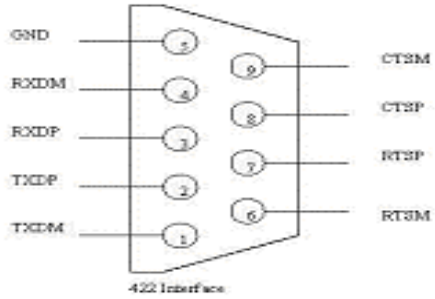


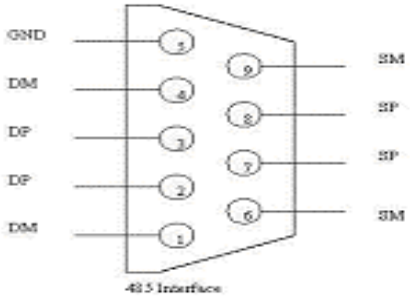
LED Indication

- LINK---When the UTS-422 or UTS-485 unit is ready for use.
- RX---When the data is being sent from RS-422 or RS-485 device to USB port
- TX---When the data is being sent from USB port to RS-422 or RS-485 device.

PIN Assignments

USB to DB-9





UTS-422

Pin#	Definition	Description
1.	TXDM	TX-
2.	TXDP	TX+
3.	RXDP	RX+
4.	RXDM	RX-
5.	GND	GND
6.	RTSM	RTS-
7.	RTSP	RTS+
8.	CTSP	CTS+
9.	CTSM	CTS-

UTS-485

Pin#	Definition	Description
1.	DM	(1)TX/RX-
2.	DP	(1)TX/RX+
3.	DP	(2)TX/RX+
4.	DM	(2)TX/RX-
5.	GND	GND
6.	SM	(1)RTS/CTS-
7.	SP	(1)RTS/CTS+
8.	SP	(2)RTS/CTS+
9.	SM	(2)RTS/CTS-

USB to Terminal Block

UTS-422TB

G	RX		TX	
	-	+	-	+

Pin#	Definition	Description
1.	+	TX+
2.	-	TX-
3.	+	RX+
4.	-	RX-
5.	GND	GND

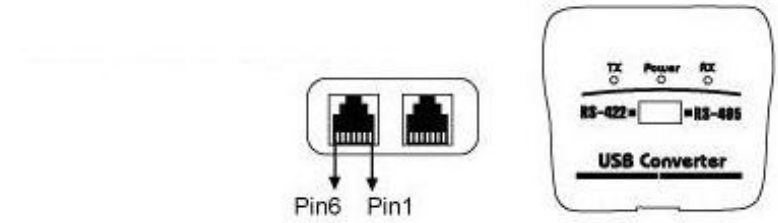
UTS-485TB

G	2		1	
	-	+	-	+

Pin#	Definition	Description
1.	(1)+	TX/RX+
2.	(1)-	TX/RX-
3.	(2)+	TX/RX+
4.	(2)-	TX/RX-
5.	GND	GND

Please note: our product has a 120 ohm termination resistor (R6/R7) mounted; you may remove it when needed.

USB to RJ-11



HALF DUPLEX MODE:

RS-485

PIN5:DATA+
PIN4:DATA-

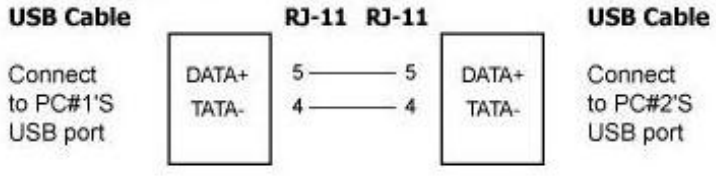
FULL DUPLEX MODE:

RS-422

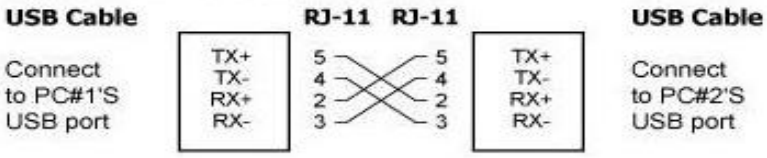
PIN5:TX+
PIN4:TX-
PIN2:RX+
PIN3:RX-

INSTALLATION:

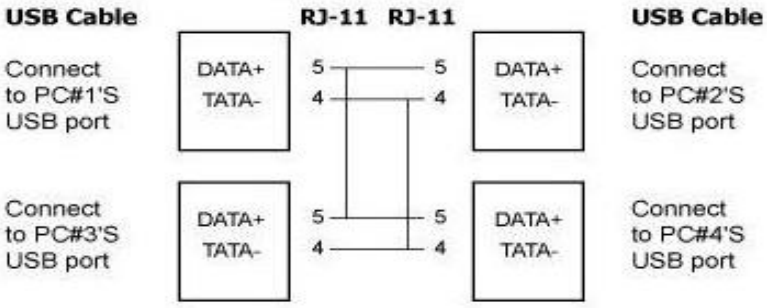
Pointer-to-pointer/Half duplex:



Pointer-to-pointer/Full duplex:



Multi-drop/Half duplex:



Pointer-to-pointer/Full duplex: