

Model UT-2003A

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8 Ports RS-422/485
USB to Serial Converters

User Manual



Summary

With rapid development of computer industry, USB is taking the place of various kinds of traditional low speed peripheral interfaces. However, RS-422/485 interface designs are still used in many of the important facilities under current industrial environment, therefore, converter is used by many users to implement the data transmission from USB of a computer to RS-422/485 equipment.

UT-2003A is a universal USB/RS-422/485 interface converter. No external power supply needed. Compatible with USB and RS-422/485 standards, DB9 male connectors are used for connection from RS-422/485 interface. The unique I/O circuit of the internal zero delay auto transceiver contained in the converter controls the data stream direction automatically. The converter is plug-and-play. All these features ensure a universal application on all the existing communication software and hardware interfaces.

The data communication rate can be as high as 9600-128000 bps by the point-to-point communication by UT-2003A interface. Power indicator light and data traffic indicator light are also available with the converter for malfunction indication.

Technical specification:

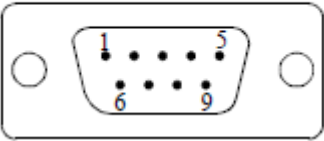
1. Standard: Comply with USB1.0,1.1, 2.0, EIA RS422/485
2. USB signal: VCC,DATA+,DATA-,GND,FG
3. RS485 signal: T/R+,T/R-,GND
4. RS422 signal: T/R+,T/R-,RXD+,RXD-,GND
5. Working modes: P2P, 4 lines, Full-duplex;
 1. P2P,2 lines, half-duplex
 2. Point to Multi, 4 lines, Full-duplex;
 3. Point to Multi, 2 lines, half-duplex
6. Direction: Auto-detect data flow, auto adapts.
7. Baud rates: 300m /128000Bps.2.4km/38400bps;5km/9600bps, Auto-adapts
8. Max. connection: 128 RS422/485 devices under point to multi mode
9. Distance: RS422/485 side: 5km(9600bps), USB side: 5m
10. Protection: 600w lightning strike, surging, +/-15kv ESD
11. Interface: USB-B type female,DB9 male;
12. Indicator: 9 lights, PWR, and status TXD,RXD
13. Transmission medium: STP,UTP
14. Measurement: 440mm*201mm*43mm
15. Power supply: 180-240V/AC
16. Supported system: Linux, Win98/2k/Vista/7.

Hardware installment and application

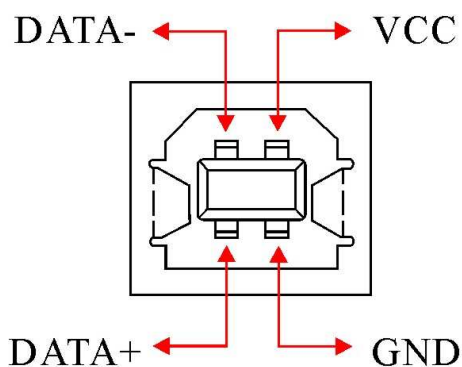
Read the user manual carefully before installing the UT-2003A interface converter. Put the signal cable of the equipment into the USB socket. USB/DB9 male connectors are adopted for input/output interface connection for this product. For prevent interference, a 120Ω,1/4w terminal resistor is required.

Connector and signal:

1. DB9 male: RS422/485 output signals and PIN assignment

DB9 PIN : RS422/485 signal and pin definition				
DB9	Output signal	RS422 (Full duplex)	RS485 (Half duplex)	
1	T/R+	Transfer (A+)	(A+)	
2	T/R-	Transfer (B-)	(B-)	
3	RXD+	Receive(A+)	-	
4	RXD-	Receive(B-)	-	
5	GND	GND	BND	
6	N/A			
7	N/A			
8	N/A			
9	N/A			

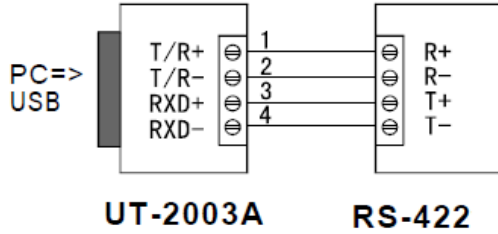
2. USB-B female: USB output signals and PIN assignment



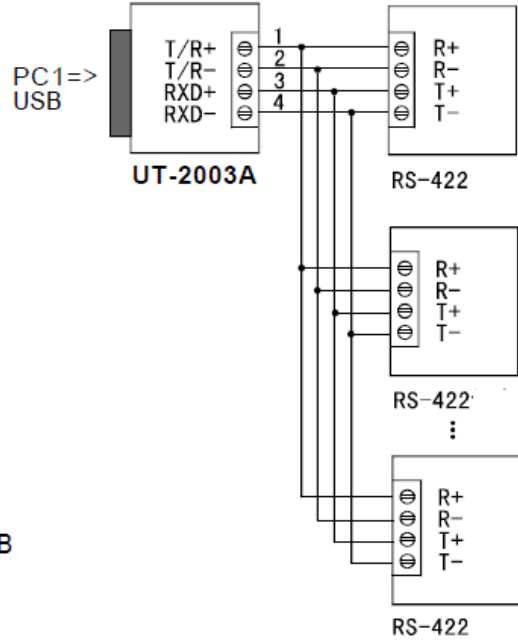
Communication Connection Chart

► USB to RS422

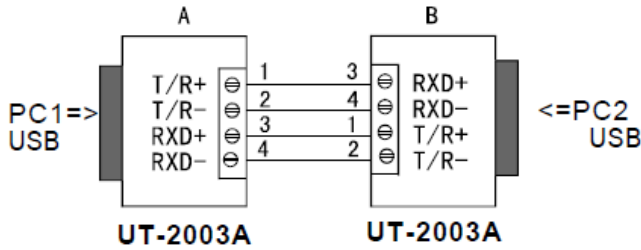
1、RS422, Point to point/ 4 lines, full duplex



2、RS422, Point to multi/ 4 lines, full duplex

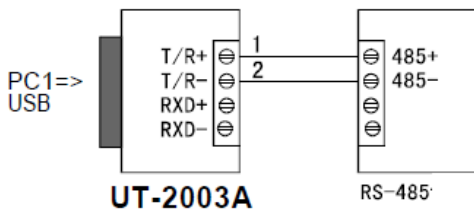


3、UT-2003A to UT-2003A, full duplex

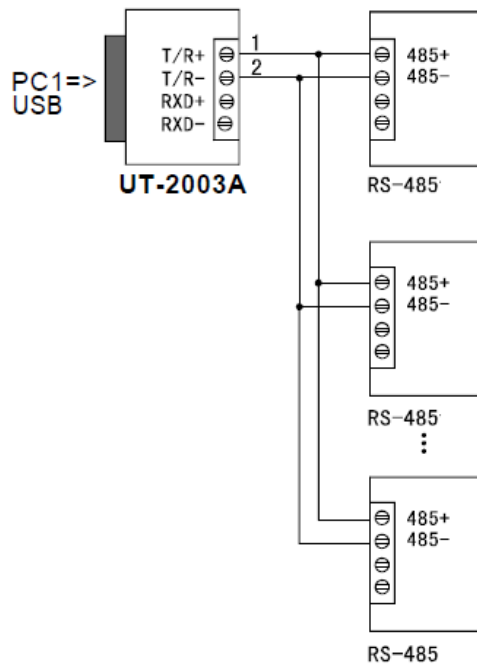


► USB to RS485

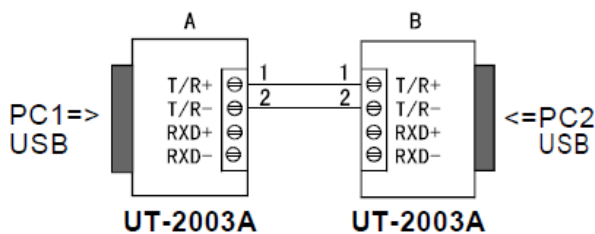
1、RS485 point to point, 2 lines, half duplex



2、RS485 point to multi, 2 lines, half duplex



3、UT-2003A to UT-2003A, half duplex



Problems and troubleshooting

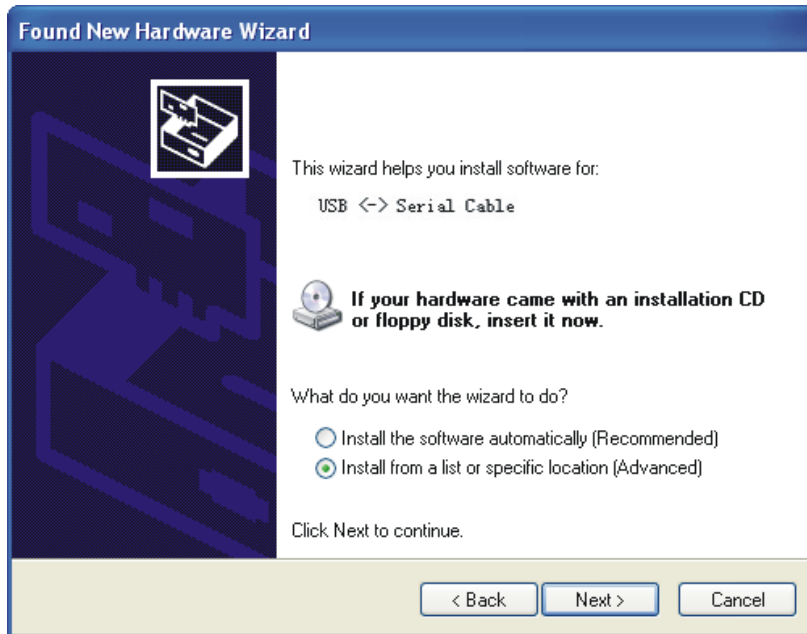
1. Data communication failure
 - A. Check to make sure USB cable is OK.
 - B. Make sure DB9 output interface connection is correct.
 - C. Make sure power supply is OK.
 - D. Make sure the wire terminal connection is OK.
 - E. Make sure the indicator lights flash when receiving.
 - F. Make sure the indicator lights flash when sending.
2. Data missing or incorrect
 - A. Check to see whether the data rate and format at both ends of the communication equipment are consistent.

VIII. Product image

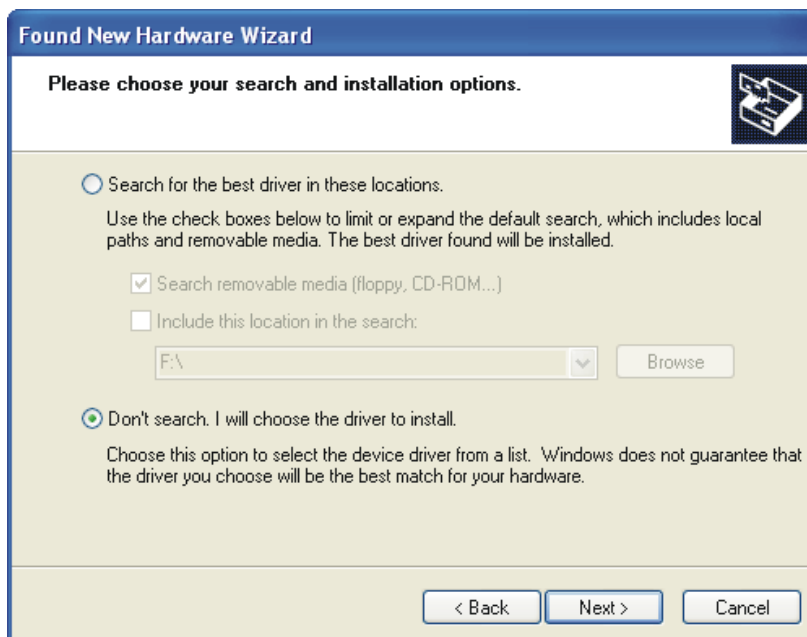


Driver installation

Once a UT-2003A converter is connected with the USB port, the following window will pop up. Select Install from a list or specific location (Advanced), then click Next to continue.

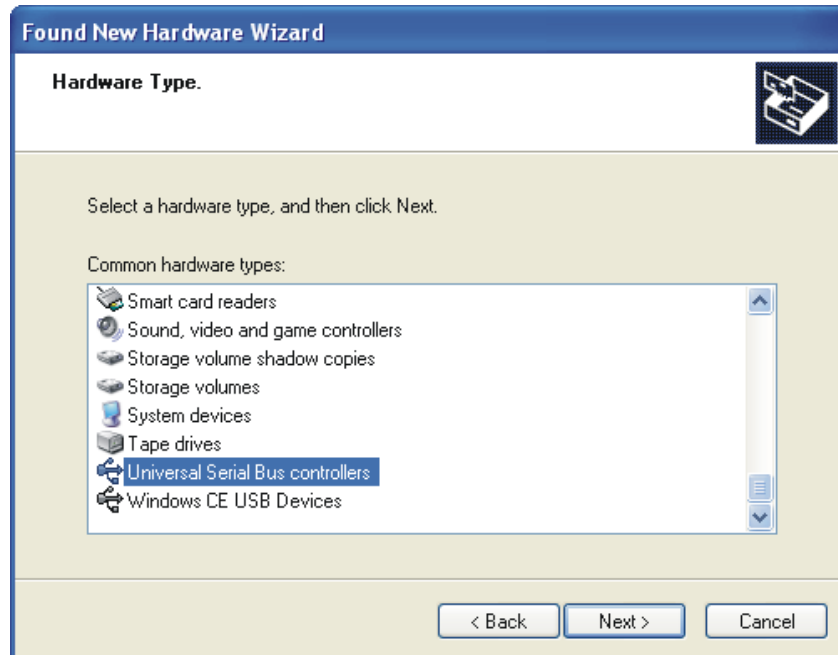


Then a window pops up to choose search and installation options as the following, please select Don't search. I will choose the driver to install, and then click Next to continue.

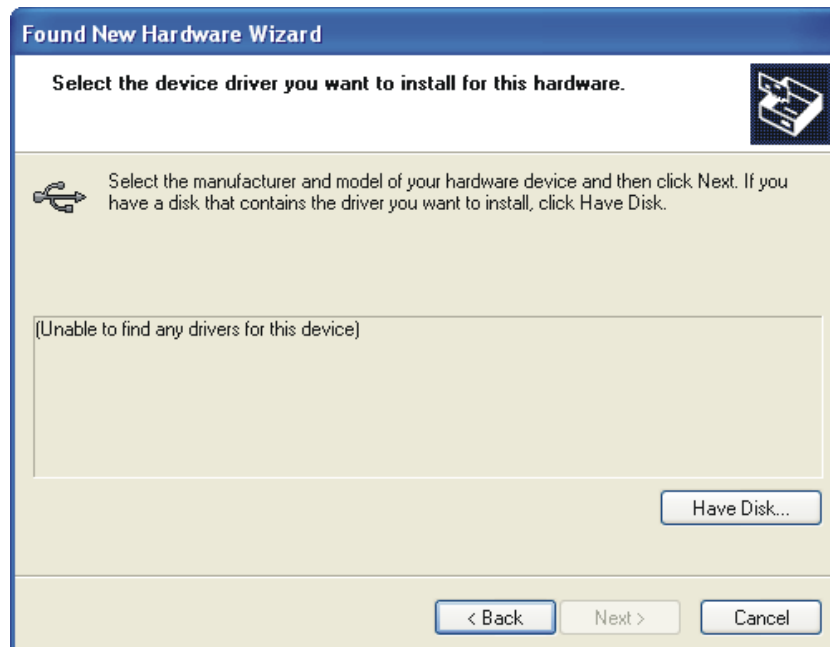


Model UT-2003A

Then a window pops up for Hardware Type listing, pull the scroll bar to select Universal Serial Bus Controllers and click Next to continue.

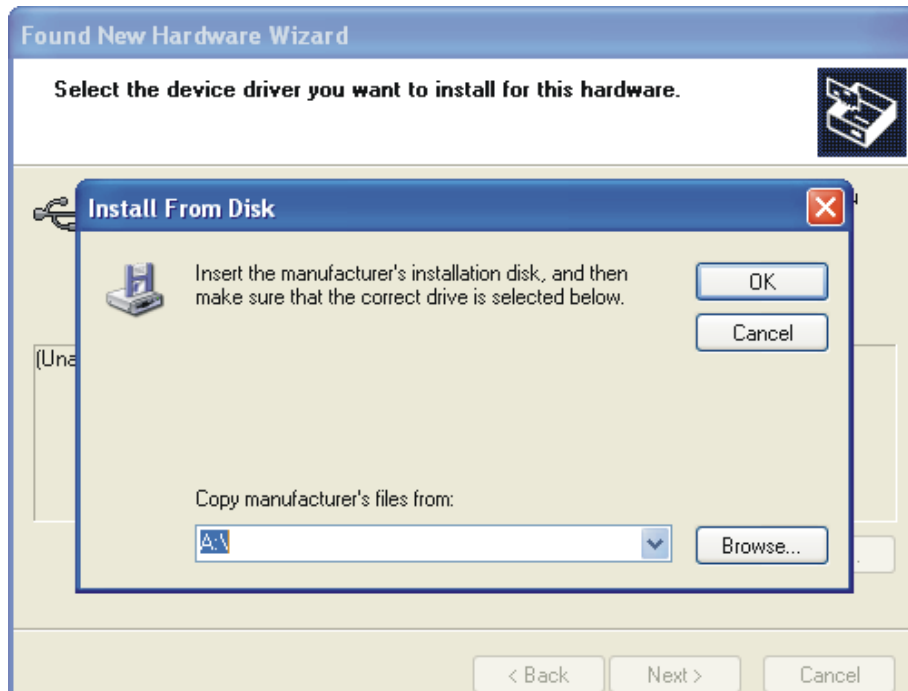


In the following Select the device driver you want to install for this hardware, click Have Disk to continue.

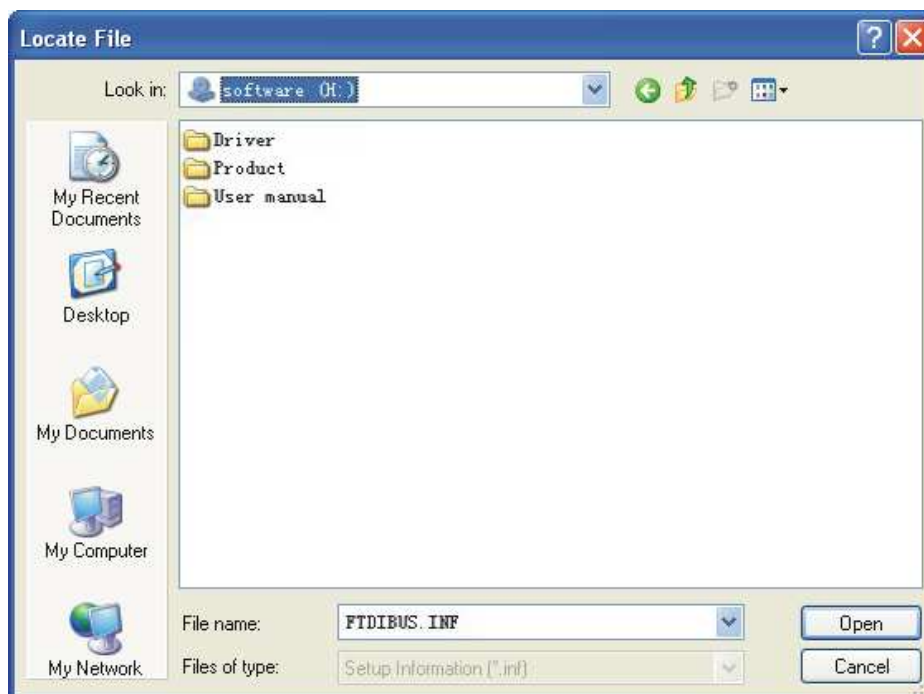


Model UT-2003A

In the Install From Disk window, click Browse to select the path of the device driver.

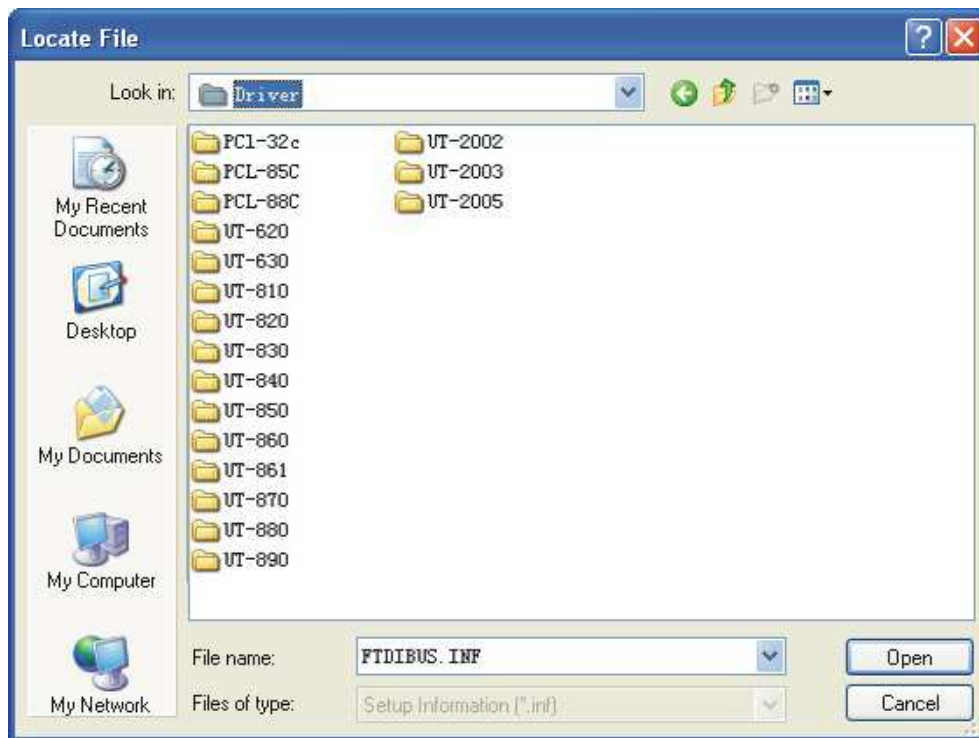


In the Locate File window, select CD path, then choose the directory Driver and click the button Open or double click to open.

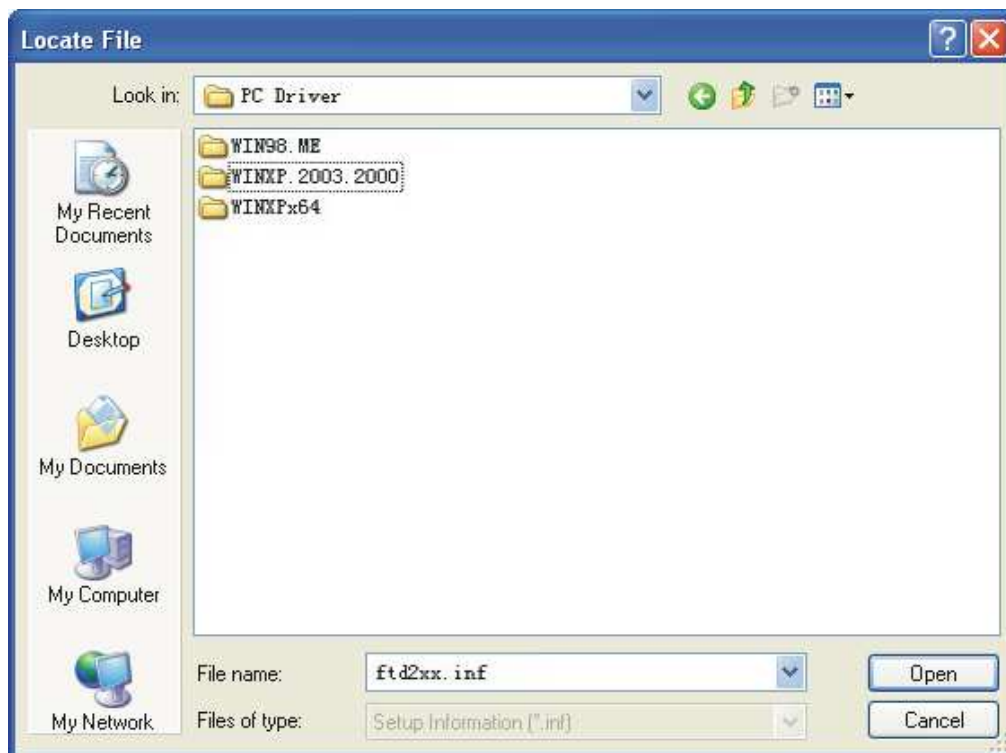


Model UT-2003A

Select the driver model as the following, then click the directory UT-2003A to open, select PC Driver directory.

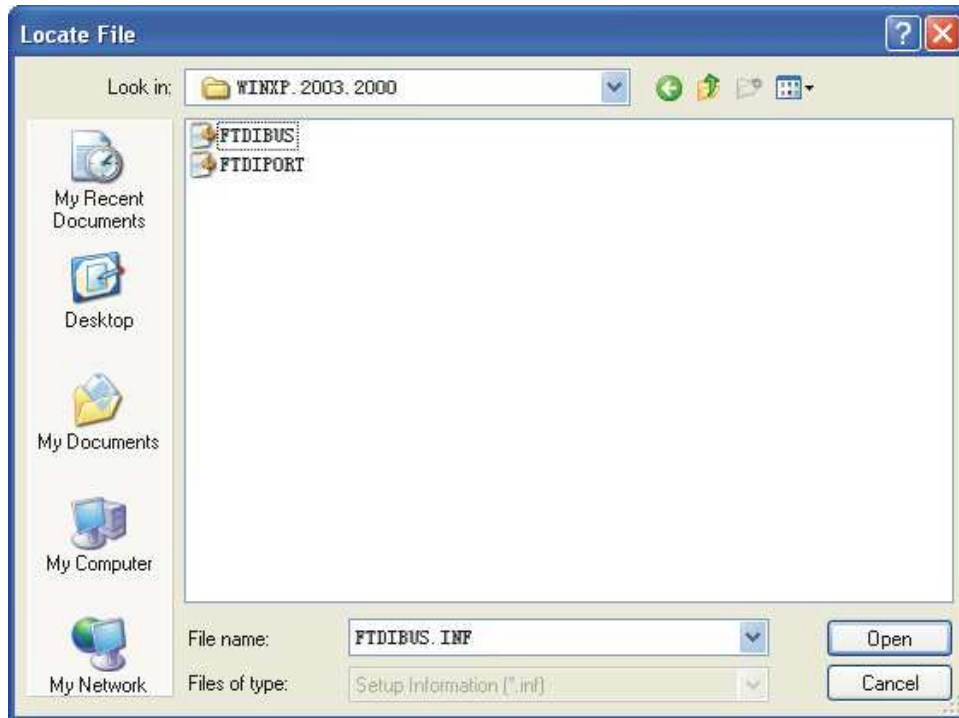


Select the applicable operation system, e.g. select and double click to open WINXP.2003.2000 for Windows XP.

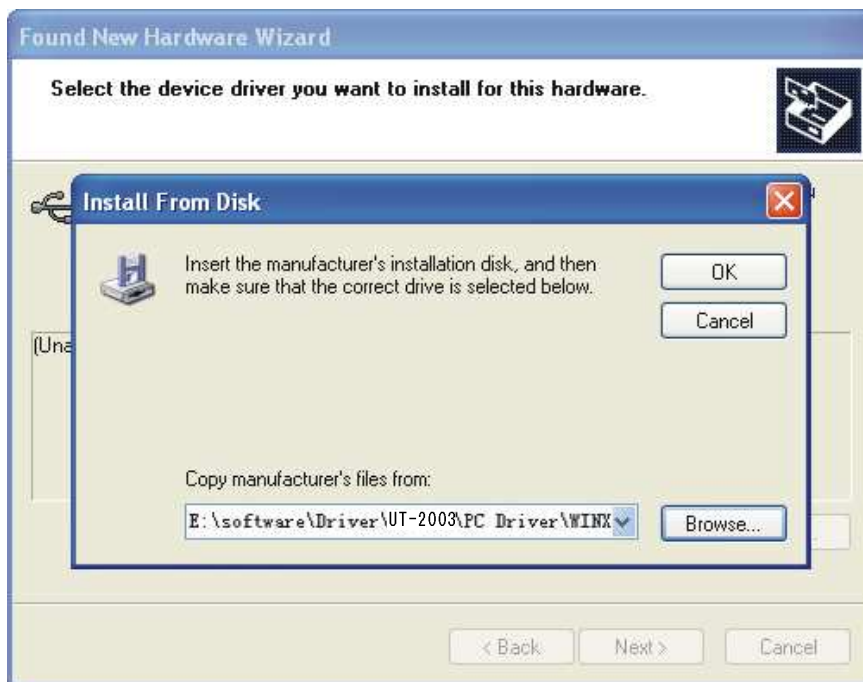


Model UT-2003A

Select the file FTDIBUS.INF, then click Open.

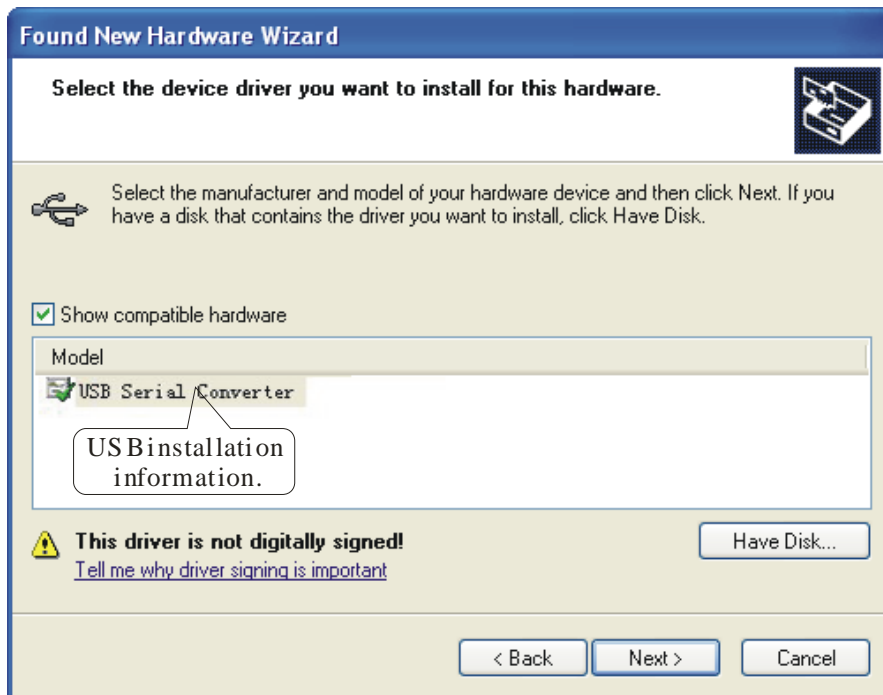


In the following Install From Disk window, just click OK.

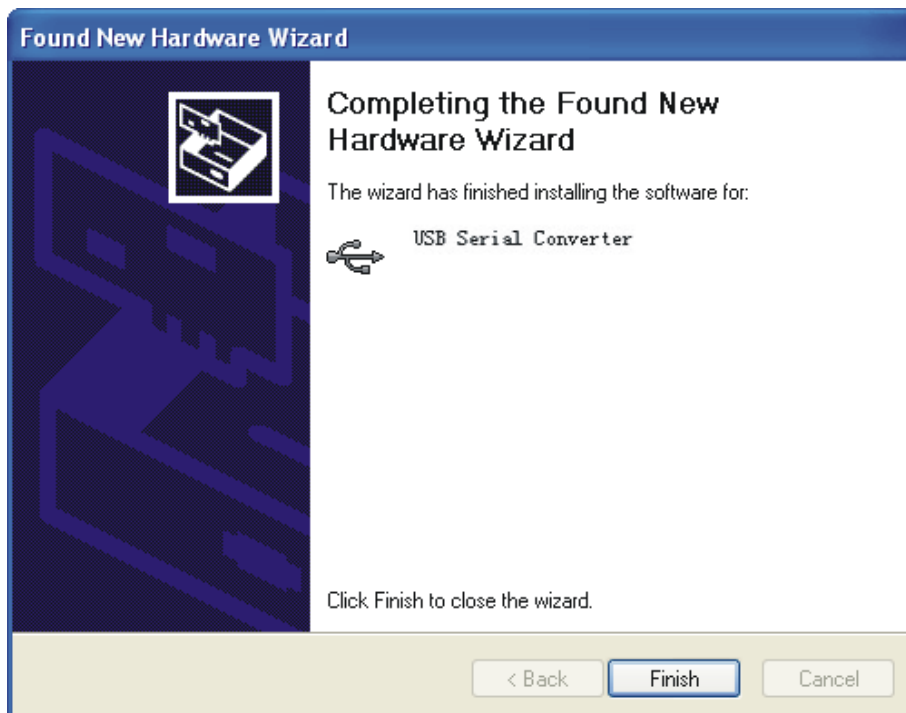


Model UT-2003A

Installation information has been located by the system as the following, just click Next to continue.

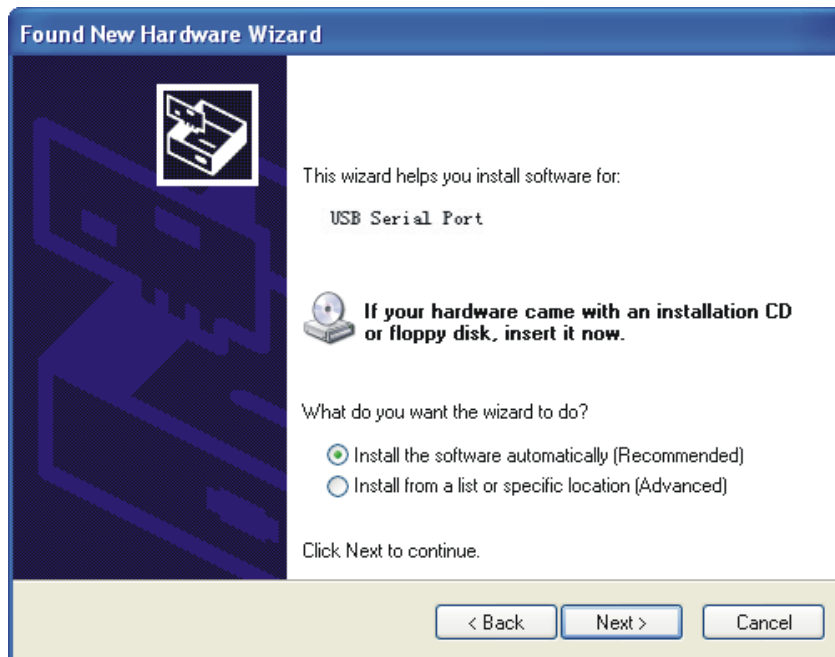


The following shows that the USB Serial Converter installation is finished, then the system wizard will detect USB Serial Port automatically.

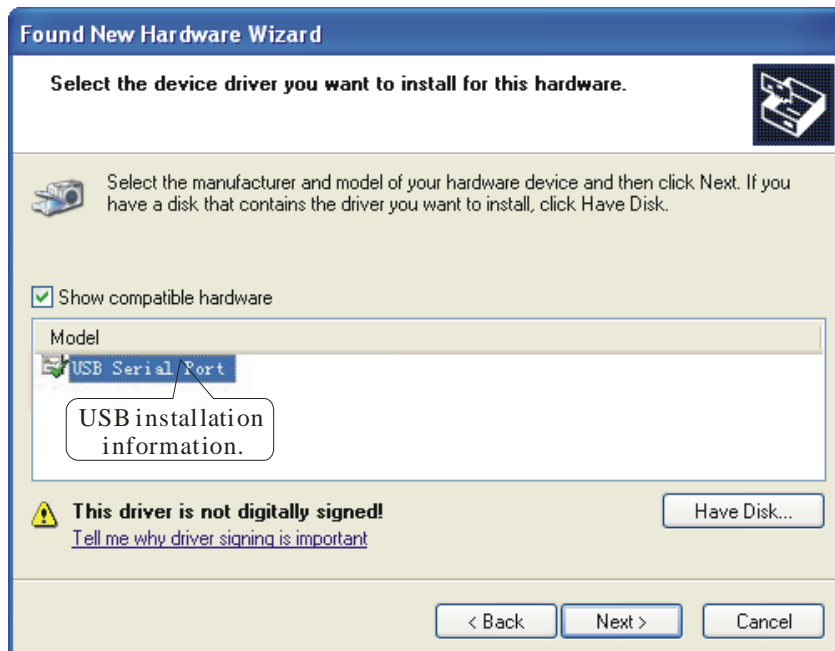


Model UT-2003A

The following is the Found New Hardware Wizard for USB Serial Port, click Next as for USB Serial Converter, the same steps are omitted here.

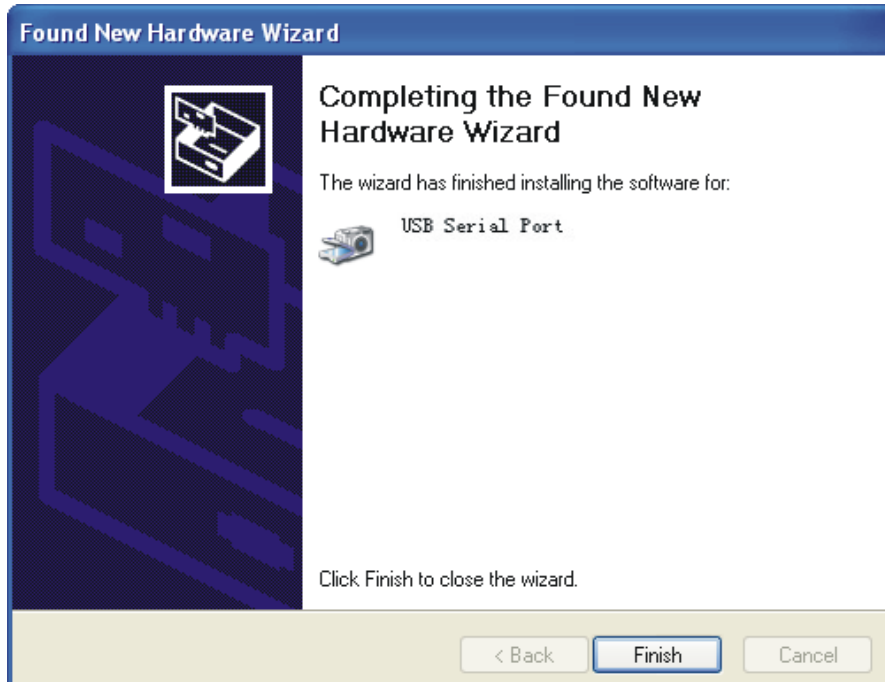


Installation information has been located by the system as the following, just click Next to continue.



Model UT-2003A

The following shows the USB Serial Port installation is finished. Up to now, all the drivers for UT-2003A are installed.



After installation, you can open Device Manager to check it there are COM ports available now, if no USB drivers have been installed previously. System default COM ports are COM 3, 4, 5 and 6 as illustrated below. Now, all the installation is finished.

