## Model UT-860 USB/RS-232 4-Port Interface Converter

# **User Manual**



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#### I. Summary

With rapid development of computer industry, USB is taking the place of various kinds of traditional low speed peripheral interfaces. However, RS-232 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-232 equipments.

UT-860 is a universal USB/RS-232 interface converter. No external power supply needed. Compatible with USB and RS-232 standards, UT-860 is capable to perform the conversion from single-ended USB signal into UART signal of RS-232. DB9 male connectors are used for connection from RS-232 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 300-921.6Kbps by the point-topoint communication by UT-860 interface. Power indicator light and data traffic indicator light are also available with the converter for malfunction indication. Conversion from USB to RS-232 is supported.

#### **II. Functions**

UT-860 interface converter supports the following communication mode:

1. Point-to-point communication mode.

#### III. Hardware installment and application

Read the user manual carefully before installing the UT-860 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.

#### **IV. Performance parameters**

- 1. Standards: conforming to USBV1.0, 1.1 and 2.0 and EIA RS-232.
- 2. USB signals: VCC, DATA+, DATA-, GND and FG..
- 3. RS-232 signals: DCD RXD TXD DTR GND DSR RTS CTS RI
- 4. Working mode: asynchronous point-to-point.

5. Direction control: adoption of automatic data stream control for automatic recognition and control of data transmission direction.

6. Baud rate: 300-921.6Kbps, automatic detection of the transmission rate of the serial interface signal.

7. Transmission distance: 5 meters for RS-232 and less than 5 meters for USB.

8. Interface protection: +-15KV electrostatic protection.

9. Interface forms: B interface female connector and DB9 male connector for USB.

10. Signal indication: 9 indicator lights for Power (PWR), Send (TXD) and Receive (RXD).

11. Transmission media: twisted-pair cable or shielded cable.

12. Dimensions: 159mmX130mmX33mm.

- 13. Working environment: -40 to 85 , relative humidity 5% to 95%.
- 14. Windows95/98/2000/XP/Vista and IMAG are supported.
- 15. Both BUS and external power supply are supported.

#### V. Connector and signal

1. DB9 PIN: RS-232 output signals and PIN assignment

RS-232C interface signal
Protection groundingDCD
Receiving data SIN (RXD)
Sending data SOUT (TXD)
Data terminal preparation DTR
Signal grounding GND
Data equipments preparation DSR
Request sending RTS
Clear sending CTS
Ring indication RI

DB9 PIN



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



#### **VI.** Communication Connection Chart



1、DCD 2、RXD 3、TXD 4、DTR 5、GND 6、DSR 7、RTS 8、CTS 9、RI



#### RS-232 device

**RS-232** device

### VII. Problems and troubleshooting

- 1. Data communication failure
  - A. Check to make sure USB cable is OK.
  - B. Make sure RS-232 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





#### IX. Driver installation

Once a UT-860 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.



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

Found New Hardware Wizard	
Hardware Type.	
Select a hardware type, and then click Next. Common hardware types:	
Smart card readers Sound, video and game controllers Storage volume shadow copies Storage volumes System devices Tape drives Christian Bus controllers Windows CE USB Devices	
(	<pre>X Back Next &gt; Cancel</pre>

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

Found New Hardware Wizard Select the device driver you want to install for this hardware.		
Ŷ	Select the manufacturer and model of your hardware device and then click Next. If you have a disk that contains the driver you want to install, click Have Disk.	
(Unable	to find any drivers for this device)	
	Have Disk	
	× Back Next > Cancel	

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

	lardware Wizard device driver you want	to install for this hard <del>w</del> ar	e. 🐼
C Install		installation disk, and then ct drive is selected below.	OK Cancel
	Copy manufacturer's files	i from:	Browse
		-	ext > Cancel

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

Locate File						? 🛛
Look in:	la software (	ж.)	~	0 ø	🔊 🛄 •	
My Recent Documents	Driver Product Vser manual					
Desktop						
Documents						
My Computer						
<b>S</b>	File name:	FTDIBUS, INF			~	Open
My Network	Files of type:	Setup Information (* inf)				Cancel

Select the driver model as the following, then click the directory UT-860 to open, select PC Driver directory.

Locate File						? 🗙
Look in:	Driver		~	G 🧔 🔛	•	
My Recent Documents Desktop My Documents	PC1-32c PCL-85C PCL-88C UT-620 UT-630 UT-830 UT-830 UT-830 UT-840 UT-850 UT-860 UT-860 UT-861 UT-870 UT-880 UT-880 UT-880 UT-880	C UT-2002 UT-2003 UT-2005				
	File name:	FTDIBUS. INF		~		Open
My Network	Files of type:	Setup Information (* inf)				Cancel

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

Locate File						? 🛛
Look in:	🛅 PC Driver	0	~	0 🕫	🔊 🛄 •	
My Recent Documents	WIN98, ME WINXP. 2003	2000]				
Desktop						
My Documents						
My Computer						
<b>S</b>	File name:	ftd2xx. inf			~	Open
My Network	Files of type:	Setup Information [".inf)			12	Cancel

Select the file FTDIBUS.INF, then click Open.

Locate File					? 🛛
Look in:	🛅 WINXP. 200	03. 2000	~	3 🤌 🖙 🖽	•
My Recent Documents	FTDIBUS FTDIPORT				
My Documents					
My Computer					
	File name:	FTDIBUS. INF		~	Open
My Network	Files of type:	Setup Information (* inf)		*	Cancel

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

Inst	all From Disk
na	Insert the manufacturer's installation disk, and then OK make sure that the correct drive is selected below. Cancel
	Copy manufacturer's files from:
	E:\software\Driver\UT-860\PC Driver\WINX

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

Found New Hardware Wizard	
Select the device driver you want to i	install for this hardware.
Select the manufacturer and model of have a disk that contains the driver yo	your hardware device and then click Next. If you ou want to install, click Have Disk.
Model	
USB Serial Converter USB installation information.	
This driver is not digitally signed! <u>Tell me why driver signing is important</u>	Have Disk
	K Back Next > Cancel

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

Found New Hardware Wi	zard
	Completing the Found New Hardware Wizard The wizard has finished installing the software for: USB Seriel Converter
	Click Finish to close the wizard,
	K Back Finish Cancel

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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.

Found New Hardware Wizard	
	This wizard helps you install software for: USB Serial Port If your hardware came with an installation CD or floppy disk, insert it now. What do you want the wizard to do? Install the software automatically (Recommended) Install from a list or specific location (Advanced) Click Next to continue.
	<pre></pre>

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

Found New Hardware Wizard Select the device driver you want to ir	nstall for this hardware.
Select the manufacturer and model of y have a disk that contains the driver you	your hardware device and then click Next. If you u want to install, click Have Disk.
Model USB installation information.	
This driver is not digitally signed! <u>Tell me why driver signing is important</u>	Have Disk
	K Back Next > Cancel

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The following shows the USB Serial Port installation is finished. Up to now, all the drivers for UT-860 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.



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