

## Model: UT-8232

(Product Name: USB to RS-232 1Port commercial interface converter)

# Datasheet



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## 1. Overview

With the continuous development of the PC industry, USB interfaces are gradually replacing various low-speed peripheral interfaces of old PCs. However, many important devices in industrial environments still use RS-232 interface designs. Therefore, many users use USB to RS-232 converters to achieve data transmission between PC and RS-232 devices.

UT-8232 is a universal USB to RS-232 converter that is compatible with USB and RS-232 standards and does not require an external power supply. It can convert single-ended USB signals into RS-232 signals. The converter has zero-delay automatic receive and transmit conversion and unique I/O circuitry that automatically controls the data flow direction, making it plug-and-play. It ensures compatibility with all existing communication software and interface hardware.

UT-8232 can provide reliable connections for point-to-point communication. It supports signal conversion from USB to RS-232 and has a data communication speed of 300-460800bps.

## 2. Major Functions & Features

The interface converter supports the following communication modes:

- 1. Point-to-point communication mode.

## 3. Hardware Installation and Application

Please carefully read the product manual before installing UT-8232. Connect the USB communication cable of the product to a USB port on your computer. The product uses a USB/DB9M universal connector as an input/output interface, and does not require any settings to automatically achieve RS-232 communication mode. You can connect it using twisted pair or shielded wire, and it is very easy to connect and disconnect. The converter uses a 9-line system that connects all signal lines including DCD, RXD, TXD, DTR, GND, DSR, RTS, CTS, and RI.

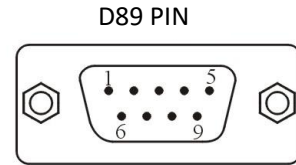
## 4. Performance Parameters

1. Standards: Compliant with USB V1.1, 1.0, 2.0 standards and EIA RS-232 standard.
2. USB Signals: VCC, DATA-, DATA+, GND, FG.
3. RS-232 Signals: DCD, RXD, TXD, DTR, GND, DSR, RTS, CTS, RI.
4. Working Mode: Asynchronous working, point-to-point working.
5. Direction Control: Uses automatic data flow control technology to automatically detect and control the direction of data transmission.
6. Baud Rate: 300-460800bps, automatically detects serial port signal rate.
7. Load Capacity: Supports point-to-point communication mode.
8. Transmission Distance: RS-232 end can reach up to 5 meters, USB end can reach up to 5 meters.
9. Interface Protection:  $\pm 15\text{KV}$  electrostatic protection.
10. Interface Form: USB-A interface male head, connected to DB9 male head connector.
11. Transmission Medium: Twisted pair or shielded wire.
12. Dimensions: 153mm x 34mm x 16mm.
13. Operating Environment:  $-40^{\circ}\text{C}$  to  $85^{\circ}\text{C}$ , relative humidity from 5% to 95%.
14. Compatibility: Supports Windows 95/98/2000/2008/XP/Vista/win7/8/8.1/10/11, MAC, Linux, etc.

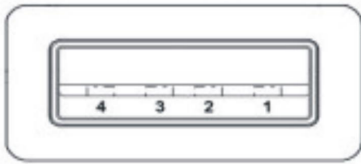
## 7. Connector&signal

### 1. RS-232C Pinout

DB9 M(PIN)	RS-232C Interface Signal
1	Data Carrier Detect (DCD)
2	Receive Data (RXD)
3	Transmit Data (TXD)
4	Data Terminal Ready (DTR)
5	Signal Ground (GND)
6	Data Set Ready (DSR)
7	Request To Send (RTS)
8	Clear To Send (CTS)
9	Ring Indicator (RI)

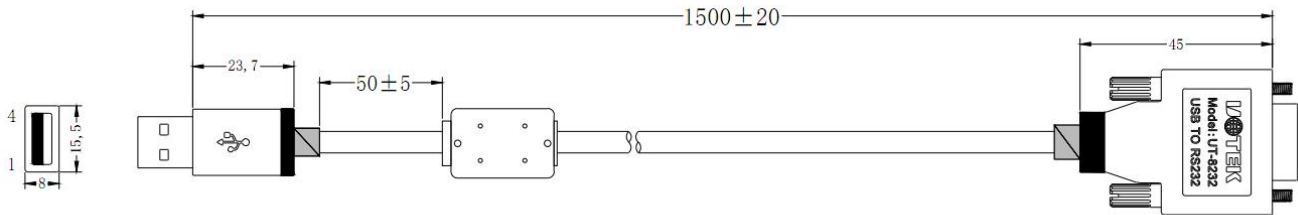


### 2. USB-A: USB signal input and pinout diagram



- 1、 VCC
- 2、 DATA-(DM)
- 3、 DATA+(DP)
- 4、 GND

## 6. Communication Connection Schematic

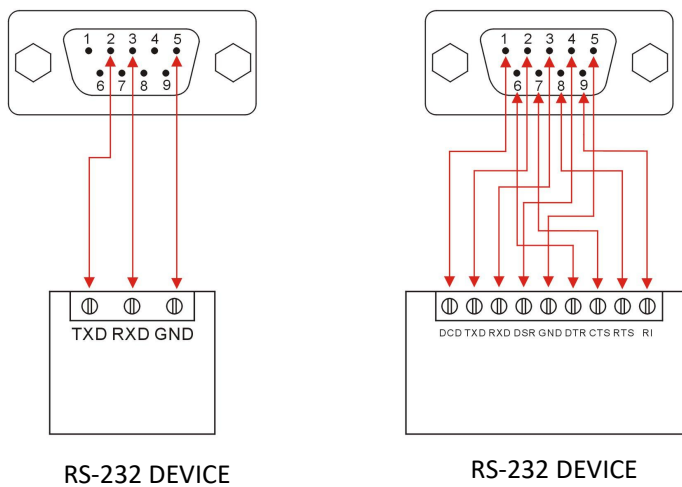


- ① Standard USB A interface male head
- ② Filter magnetic ring
- ③ Black shielded USB 2.0 communication cable
- ④ Standard DB9 male head
- ⑤ The main chip uses products from FTDI company in the UK.

## 8. Appearance



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



## 9. Troubleshooting

1. Data communication failure:
  - A. Check if the USB interface wiring is correct.
  - B. Check if the RS-232 output interface wiring is correct.
  - C. Check if the power supply is normal.
  - D. Check if the terminal connections are properly connected.

2. Data loss or errors:

A. Check if the data rate and format of the two data communication devices are consistent.

B. Check if the amount of data transmitted and received at both ends of the data communication devices is consistent.