

## USB 2.0 TO RS422/RS485 CABLE

### — converter manual —

#### USB 2.0 TO RS422/RS485CABLE

##### 1. Summary

With the continuous development of the PC industry, USB interface is substituting the old industrial and low speed PC interface, but there are so much important equipment still use the RS485/RS422 interface in the industrial environment. So many users have to use the USB to RS485 / RS422 converter to realize the data transfer between PC and RS485 / RS422 equipment.

The universal USB 2.0 TO RS422 / RS485 converter, which is without addition power supply, compatible with USB, RS422, RS485 standards. It can convert USB signals to a balanced differential RS422 or RS485 signals. Each line has surge protection, and various surge voltage protections. The tiny capacitance distance guarantees RS422 / RS485 interface high speed transmission. RS422, RS485 connect by DB9 interface. Converter with zero delay automatic transceiver inside, unique IC cut automatically control data flow direction, without any handshaking signals (such as RTS, DTR, etc.) and it supports full-duplex, half-duplex conversion, plug and play. Ensure the product for all existing communication software and hardware interface.

USB TO RS422/RS485 converters for point-to-point, point-to-multipoint reliable communication. Provide the point-to-multipoint converter allows connecting 32 RS422 or RS485 devices, data rate of 300 to 460800bps. The power and data flow indicator light will show fault if any breakdown. Support of communication has USB to RS422, USB to RS485.

##### 2. Function

- USB TO RS422/485 converter supports four communication modes:
1. Point-to-point / 4-line full-duplex;
  2. Point-to-multipoint / 4-line full-duplex;
  3. Point-to-point / 2-line half-duplex;
  4. Point-to-multipoint / 2-line half-duplex.

When the converter is working at full-duplex or half-duplex, needs to add a matched resistance to avoid reflects and disturbance of signal. (120Ω, 1/4W)

##### 3. Installation and utilization

Please read carefully product manual before install DT-5019 converter, then insert USB cable which attached to USB port. This product use USB DB9, general connectors for input/output interface without jumpers, automatically identify RS422 or RS485 communication mode. Fit for twisted-pair cable or shielding wire connection, very convenient to disassemble. Point-to-point, point-to-multipoint, full-duplex communication that connect four wires T/R+, T/R- and RXD+, RXD-, point-to-point, point-to-multipoint, half-duplex communication that connect two lines T/R+, T/R-.

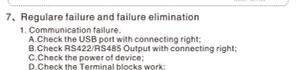
##### 4. Performance parameter

1. Standards: Compliant with USB2.0 downward compatibility, and standard RS422, RS485;
2. USB signal: VCC, DATA+, DATA-, RXD+, RXD-, GND, FG;
3. RS422 signal: T/R+, T/R-, RXD+, RXD-, GND;
4. RS485 signal: T/R+, T/R-, GND;
5. Working mode: asynchronous working, point-to-point or point-to-multipoint, full duplex 4-line, half duplex 2-line;
6. Band Rate: 460800bps, automatically detects serial signal rate
7. Load capacity: support to more each converter allows connecting 32 RS422 interface RS485 or equipment;
8. Transmission range: 1200meter of RS422/485, 5m of USB cable;
9. Interface Protection: 600V surge protection, ±15KV ESD protection;
10. Interface: USB A Male, DB9 Male;
11. Transmission media: twisted-pair or shielded wire;
12. Signal indication: red for power, green for data sending, yellow for data receiving;
13. Transmission media: twisted-pair or shielded wire;
14. Transmission rate: 300-460800bps;
15. Operating environment: -25℃ to 70℃, relative humidity at 5% to 95%;
16. Support Windows 98/ME/2000/XP/Visa7, Linux, MAC, Wincc.

##### 5. Interface and signal

DB9 Pin	RS422/RS485 pin assignment for the output signal/terminal block
1	Output signal: RS422 Data+ or RS485 TXD+
2	Output signal: RS422 Data- or RS485 TXD-
3	Output signal: RS422 RXD+ or RS485 RXD+
4	Output signal: RS422 RXD- or RS485 RXD-
5	GND

##### USB output signal and lead foot



##### 6. Connection instruction



##### 7. Regulate failure and failure elimination

1. Communication failure
  - A. Check the USB port with connecting right;
  - B. Check RS422/RS485 Output with connecting right;
  - C. Check the power of device;
  - D. Check the Terminal blocks work;
  - E. Check the indicator flicker when receiving;
  - F. Check the indicator flicker when sending;
2. Data loss or data fault
  - A. Check the data transmission utilization ratio with same format.

## Product Warranty Card

**Customer Information**

Model: \_\_\_\_\_

Date of purchase: \_\_\_\_\_

User telephone: \_\_\_\_\_

User address: \_\_\_\_\_

Distributor: \_\_\_\_\_

Agency address: \_\_\_\_\_

User telephone: \_\_\_\_\_ Dealer stamp valid

**Maintenance Records**

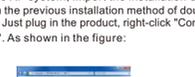
Repair times	Date	Fault	Treatment measures	Repair work NO.

## USB2.0 convert RS232/RS485/RS422 serial install driver instruction

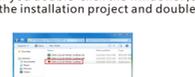
### I. Introduction to the installation of drive steps

**(1) take the win7 64 bit operating system as an example, use the CD installation driver**

Step one: In the XP system, import the installation driver, which is different from the previous installation method of double-clicking the application. Just plug in the product, right-click "Computer", and click "Manage". As shown in the figure:



Step two: After you double-click the windows7.10 folder, it will pop up the installation project and double-click the application:



Step three: Double click the application, the name of the chip company will be popped up and click on "Extract":



Step four: Then the driver installation guide will be popped and click next:



Step five: Select "I accept this Agreement" and click next:



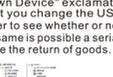
Step six: After that, the window of the installation driver has been popped up, and click "finish":



The above is the process of using win7 64 bit operating system, using CD to install and drive.

### (2) In XP system, use CD-ROM to install and drive

Step one: In the XP system, import the installation driver, which is different from the previous installation method of double-clicking the application. Just plug in the product, right-click "Computer", and click "Manage". As shown in the figure:



Step two: The first situation: pop-up the computer management system page, double click "device manager", then double click "port" after the COM port pop-up, but in the "universal serial bus controller" you can see the "Unknown Device" exclamation mark. Shown as follows: Suggest you change the USB interface, or change the computer to see whether or not the same phenomenon, if still the same is possible a serial line failure, suggest you to negotiate the return of goods.



The second situation: There is an exclamation mark in the "other equipment":



Then right-click it, click "update driver", and then pop out of the method that prompts you to install the driver, select "install it from the list or location", and click on the next step:



Step three: Then pop up the search and install options window and select "browse":



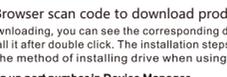
Step four: Find the drive disk. (Note that if the folder is compressed, the compression package must be decompressed first.) Select the "Windows XP" folder, click "+", and then click "confirm":



Step five: Then go back to the search and install options window, and browse the folder to see the selected "Windows XP" folder. Click next:



Step six: After that, you can pop up the hardware update wizard window and click "finish":



Step seven: The window will automatically revert to the device manager page, and you can see that there is a COM port on the port column:



Step eight: If you do not see the COM port in the device manager window, click "scan hardware changes":



### (3) . Browser scan code to download product driver

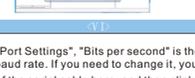
After downloading, you can see the corresponding driver and install it after double click. The installation steps can imitate the method of installing drive when using CD.

### II. Setting up port number in Device Manager

Step one: Right click on the computer and choose "management":



Step one: Insert the serial cable into the USB interface of the computer, in the "Device Manager", "Port" item, check that the serial port cable has been installed with the driver, and the "COM" port pops up, as shown in the figure:



If you insert the serial port line in the "device manager", not to see the COM, but to display "Unknown Device": then replace the computer and USB test. If this is the case, it may be a serial line failure, it is recommended to return to the factory to replace. Figure:



Step three: See the device manager set to identify the COM device, the next figure is a LED display application software, the software can set the port change COM slogan, the same as device manager of the COM port:



Step four: If there are no more COM ports in the software, or the selected COM port is still unable to connect, then you need to change the COM number in the device manager, right click the "COM" port in the map, and select the attributes, such as the figure:



After clicking "attribute", the first shot is a regular column. The status of the device shows "this device is working properly". The driver installation does not appear to be a problem, and then click "port settings", such as:



After clicking "Port Settings", "Bits per second" is the parameter setting of the baud rate. If you need to change it, you can change the baud rate of the serial cable here, and then click "OK" as shown in the figure



If the user changes the port of the serial line, click "Advanced" in "Port Settings", the COM port setting page will pop up immediately, select the COM port that matches the communication software, and then click "OK" as shown in the figure:



After setting the port number of the serial port line, you can return to the "device manager" to see if the port line has changed the port number. If the port number is still unchanged, you can click the update driver icon in the upper right corner of the "device manager" to update the port number (the general win7 system will automatically update the port number, XP system after the system is set up. \* You need to update the driver to see if the port number is changed. For example, click Scan key:



The installation of serial port has been introduced, and the whole process has been used. If there is an installation fault on the serial cable or an exclamation mark before the COM port, it can be tested on other computers. If the same phenomenon occurs, it is recommended that the factory be repaired. In the use of communication problems, please check if your inserts are in good contact, the port number is wrong, the baud rate has been changed, and the device can turn off the power reboot, or let the device identify the serial line and so on to exclude the fault, but it does not exclude the compatibility problem.