

# TRP-C08

(Ver: 2.1)

## USB to RS232/422/485 Isolated Converter



## User's Manual

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**Trycom Technology Co.,Ltd**

No.35, Zhongxing Rd., Guishan Township, Taoyuan County 333, Taiwan.

Tel : 886-3-350-3351 Fax: 886-3-350-3352

Web: [www.trycom.com.tw](http://www.trycom.com.tw)

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# 1. Introduction

The TRP-C08 allows you to connect your serial devices to systems by using a USB interface. With auto configuration in data format, baud rate and RS485 data flow direction control. TRP-C08 is able to automatically configure RS232, RS422 or RS485 signals to baud rate without external switch setting. TRP-C08 is equipped with 3000V DC of isolation and internal surge-protection on each data lines to protect the host computer and converter against high voltage spikes, as well as ground potential difference. TRP-C08 also features a high-speed 256 Kb/s transmission rate, and supports various O.S. The industry DIN rail and panel mounting design enable user a fast and professional installation.

## 1.1. Features

- Full compliance with the USB V1.0 and 2.0 specification.
- System gets 1 COM port when the converter is connected.
- Auto data format detecting.
- Auto direction flow control on RS485.
- Auto baud rate switching from 75 bps to 6M bps.
- 256 byte buffer for upstream and downstream data flow.
- Direct power from USB port , no external power necessary.
- 3000V DC isolated protection.
- Surge protection on RS422/485 data lines.
- Power/TX/RX mode LED indicator.
- DIN rail or panel mount support.
- Driver support: WIN10/WIN8/WIN7/WIN98/ME/2000/XP/CE3.0, and Linux, and Mac OS.

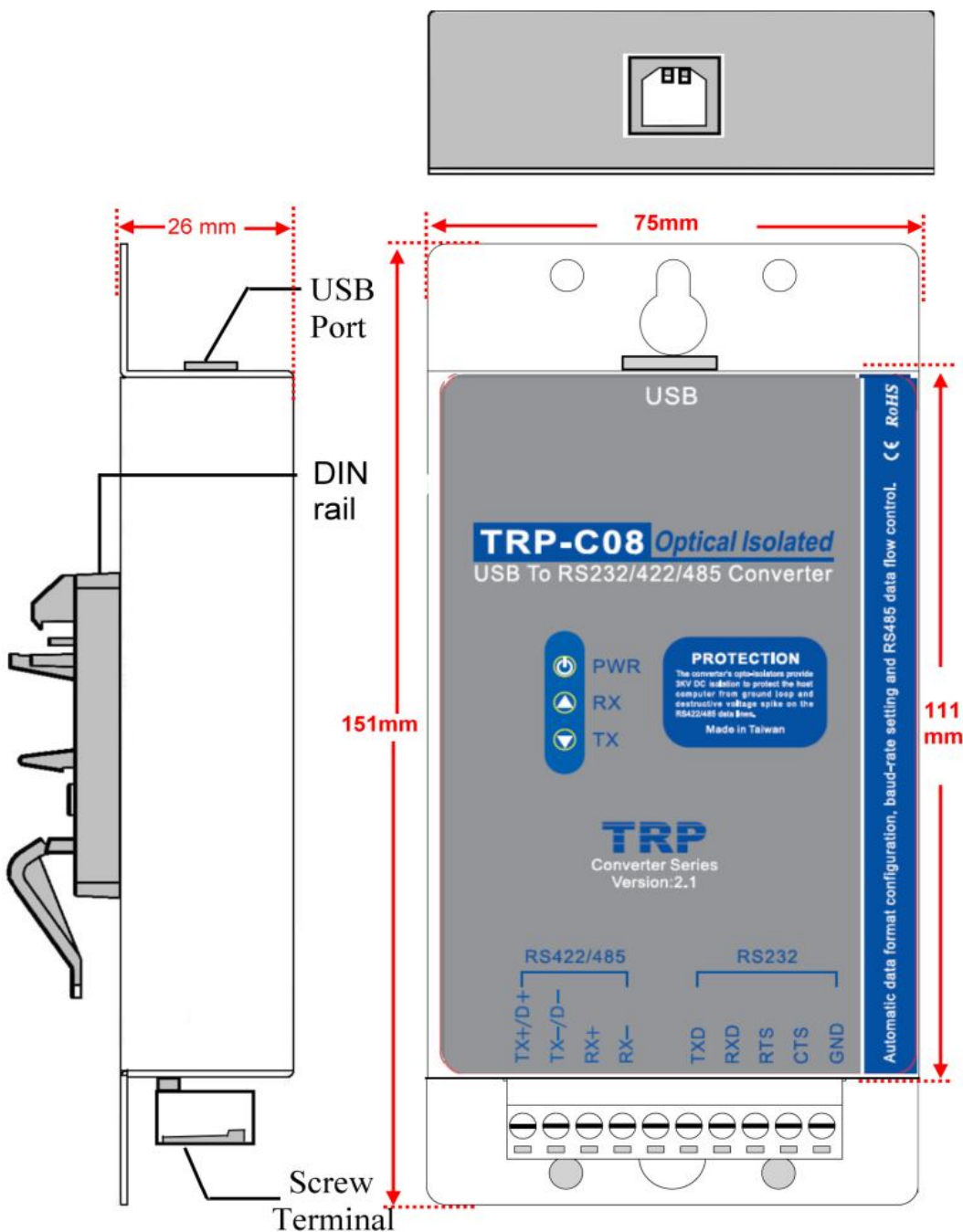
## 1-2. Specifications

- USB interface: Fully compliant with V1.0, 2.0 specifications.
- USB to serial bridge controller; Prolific PL2303 Series.
- RS232 signal: 5 full-duplex (TXD, RXD, CTS, RTS, GND).
- RS422 signal: Differential 4 full-duplex wires (TX+, RX+, TX-, RX-).
- RS485 signal: Differential 2 half-duplex wires (D+, D-).
- Data Format: Asynchronous data with all common combination of bits, parity, stop.
- Parity type: None, odd, even mark, space.
- Data bit: 5, 6, 7, 8.
- Stop bits: 1, 1.5, 2.
- Cable: USB type A to type B.
- Communication speed: form 75bps to 6M bps.
- RS422/485 line protection: Against surge, short circuit, and voltage peak.
- Transmission distance: RS422/485 Up to 4000ft (1200M).
- Connection type: Screw terminal accepts AWG #12~30 wires.
- Signal LED: Power on, TX, RX.

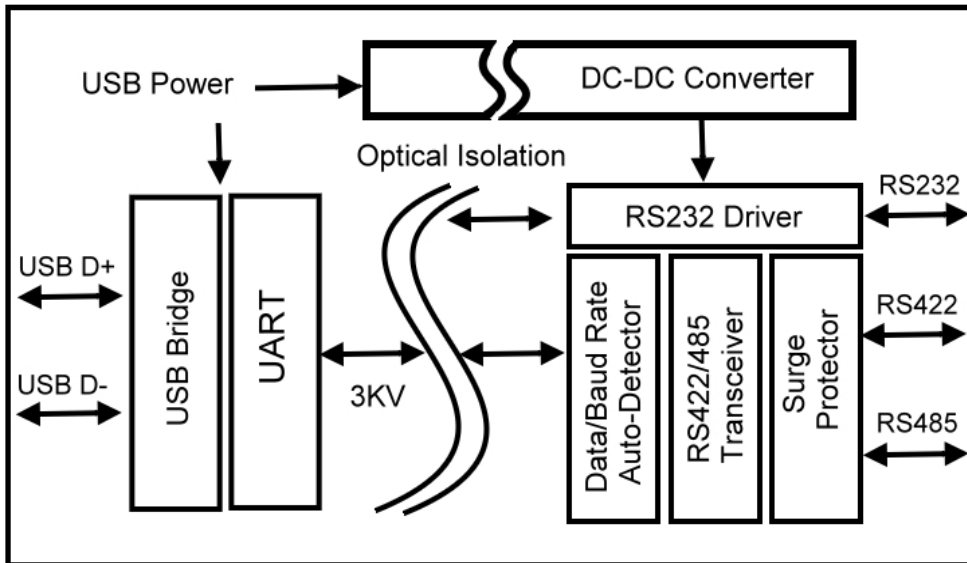
- Direct power from USB port.
- Power consumption: 1.2W.
- Isolation voltage: 3000V DC.
- Operating environment: 0 to 60°C .
- Storage temperature: -20 to 70°C .
- Humidity: 10-90% non-condensing.
- Dimension: 151mm X 75mm X 26mm.
- Weight: 375g.

## 2. Hardware Description

### 2-1. Panel layout



## 2-2. Block diagram



## 2-3. LED Indicator

**1PWR LED:** System is ready.

**RX LED:** RS232/422/485 Receiving.

**TX LED:** RS232/422/485 Transmitting.

## 23. Install TRP-C08

### 13-1. Power Connection (USB Internal Bus)

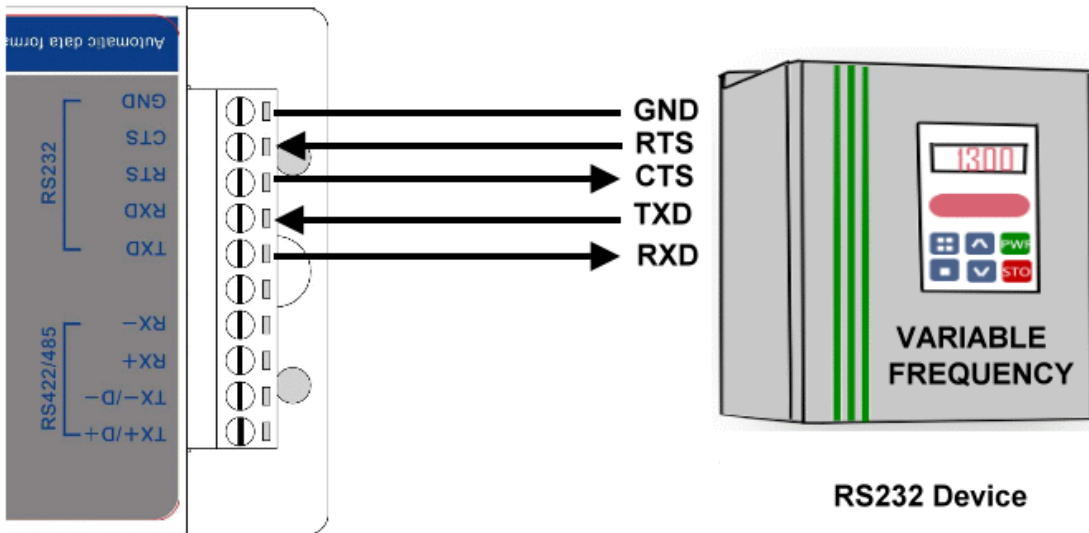
Direct power input from USB bus port, current 100mA/+5V, no external power necessary.

### 13-2. USB Connection

TRP-C08 use the standard A to B type USB cable between host and converter.

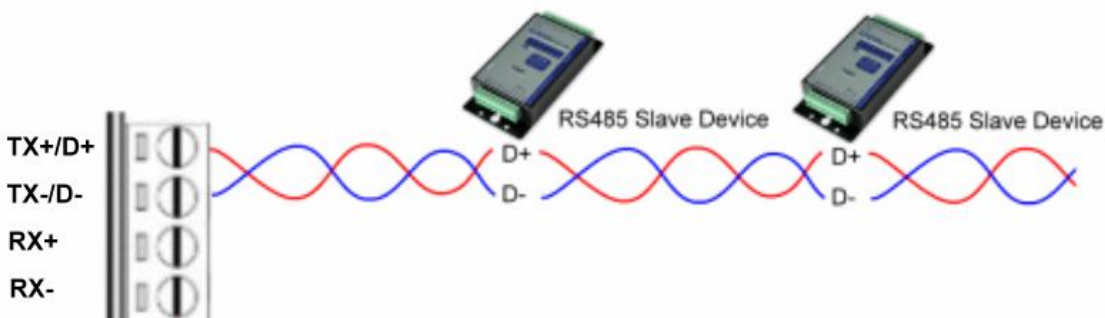
### 3-3. RS232 wiring connection

The RS232 supports 5 channels plus Signal Ground and is configured as DTE like a computer. Signals are single ended and referred to Ground. To use handshaking or flow control user must set Host PC's RTS/CTS during configuration. Refer to the pin assignment for connection as below.



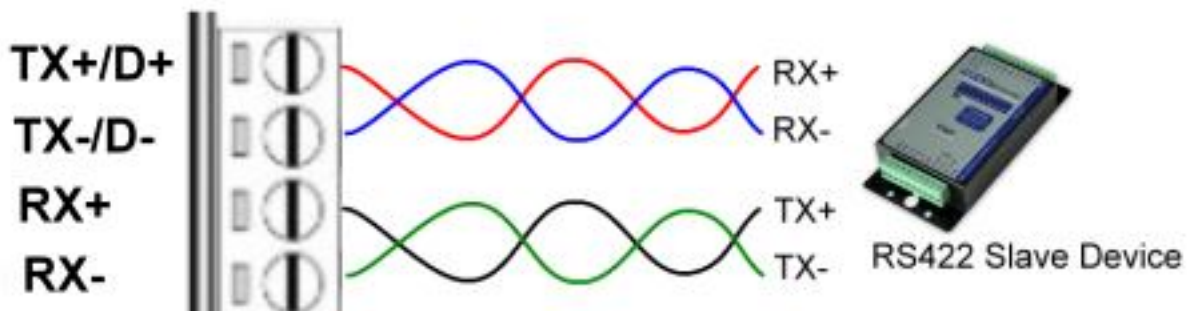
## 2-6. RS485 Wiring connection

The RS485 mode supports the Transmit and Receive channels using 2-wire half-duplex operation. Refer to the pin assignment for connection as below.



## 2-7. RS422 wiring connection

The RS422 mode supports 4 channels with full duplex operation for Receive, Transmit, The data lines are in differential pairs. Refer to the pin assignment for connection as below.

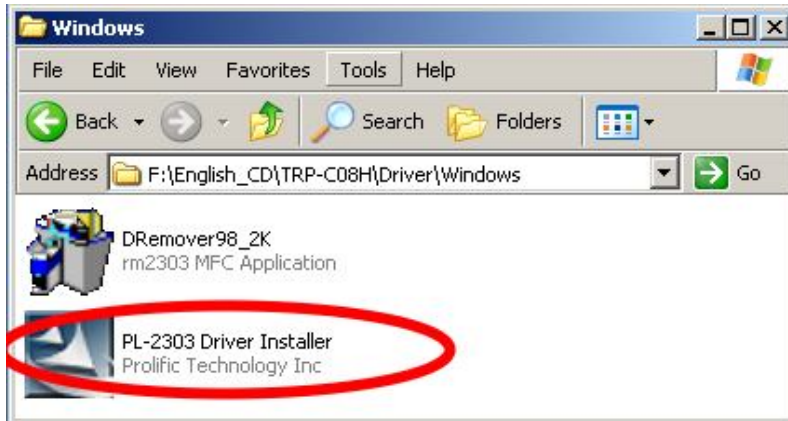


**Notice:** Due to the Hardware control problem will caused TRP-C08 under RS422/485 can't work, please take TRP-C08's RS232 screw terminal connector (RTS & CTS SHORT).

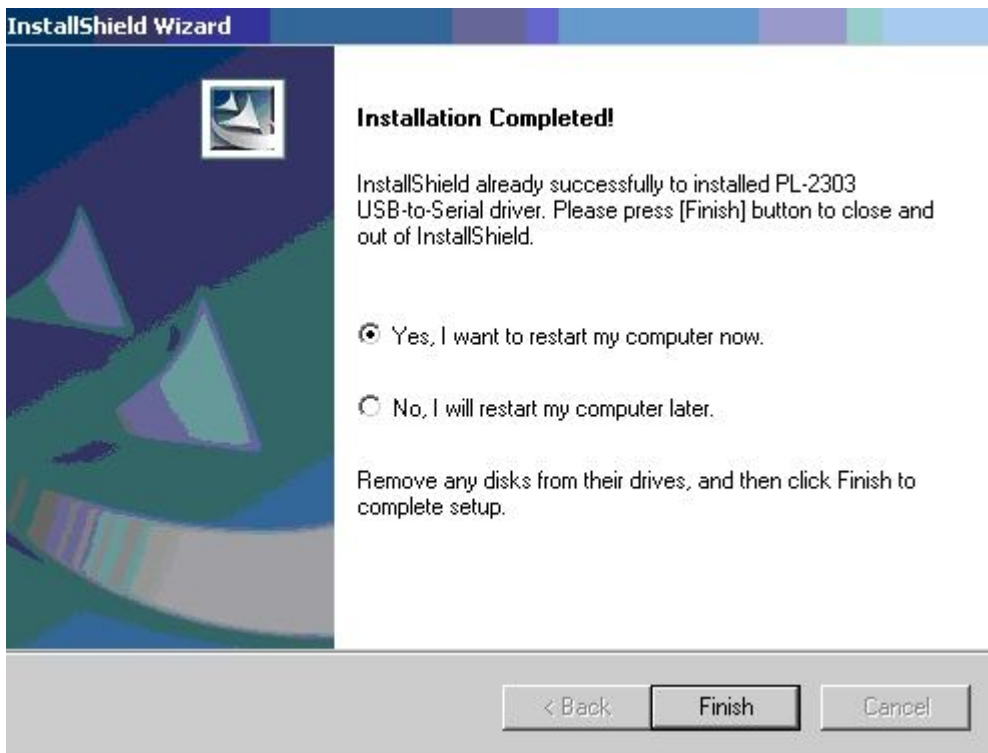
### 3. TRP-C08 Software Installation

1. Power on your computer and boot to Windows.
2. Install PL-2303 driver (See figure1, 2)

User may find the TRP-C08 PL2303 Driver Installer in Trycom support CD or download from Trycom web [www.trycom.com.tw](http://www.trycom.com.tw).



**Step1.** Double click PL2303 Driver Installer” the installShield Wizard screen will appear. The Wizard will guide you to complete the installation.



**Step2.** Connect TRP-C08 with your computer by USB cable.

**Step3.** Windows system will auto detect a “new USB devices” and complete TRP-C08 installation



5. After installation user may verify if TRP-C08 was properly installed by Click Start – Setting -- Control panel -- double click system icon – Hardware Device Manager -- Double click on ports (COM&LPT) .(See Figure 4)

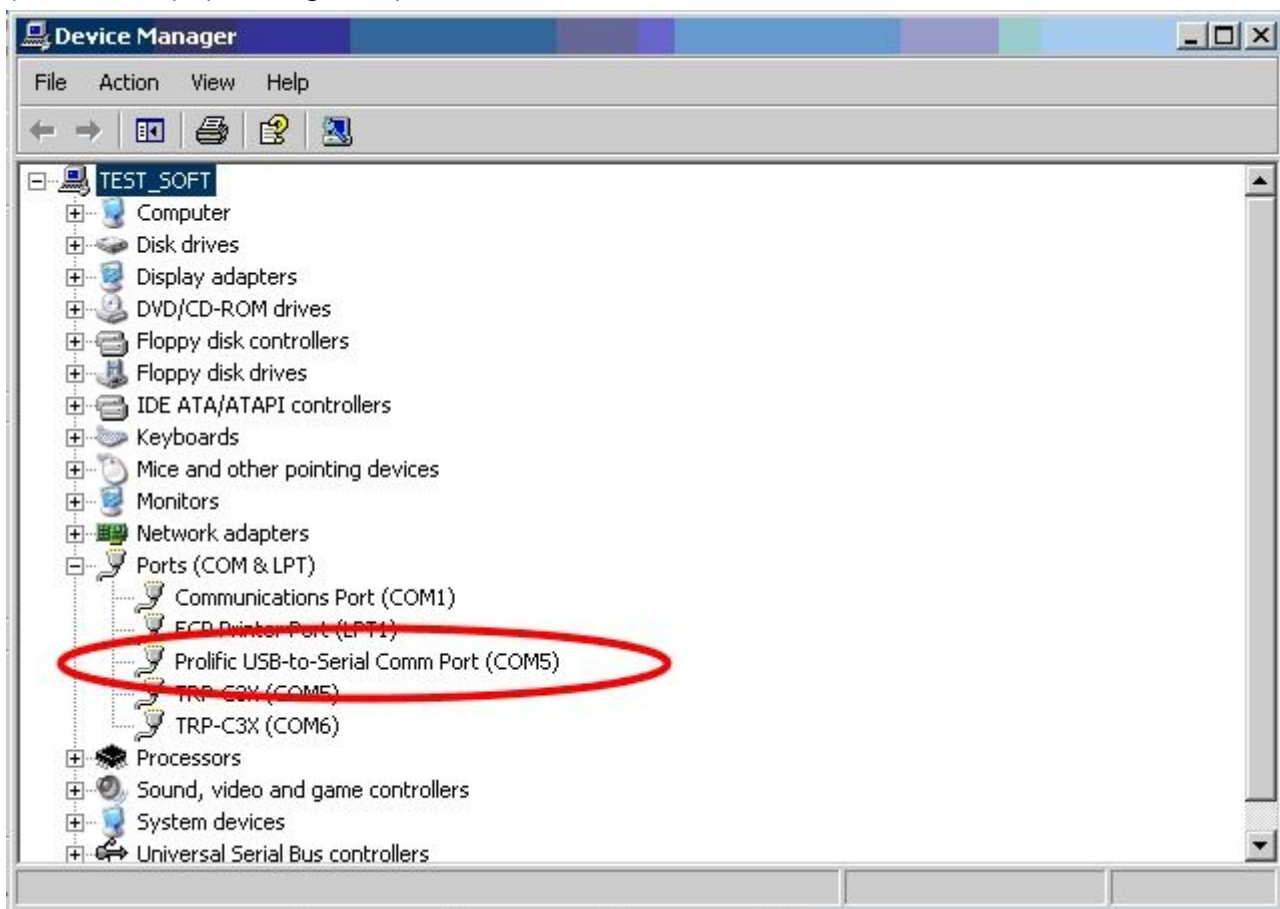


Fig.4

6. If the device was correctly installed you may see new COM devices listing. This means Windows has assigned the device to the COM# port.

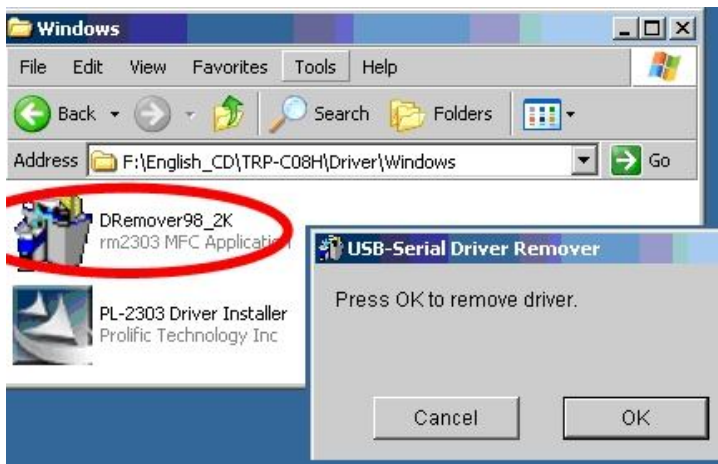
\*It could be difference COM port show on the windows Device Manager, The PL2303 driver will auto assigned COM number on your system.



## 4. Remove or update TRP-C08 Driver

It is necessary to update the driver when TRP-C08 adds new features or function. User may download the latest driver from Trycom web [www.trycom.com.tw](http://www.trycom.com.tw) .

Use the **DRemover98\_2k** to remove old version TRP-C08 driver. Double click **DRemover98\_2k** If an older version of the TRP-C08 driver software existed in the system, the modify, repair or remove the program window will appear, select “Remove” to clean TRP-C08 driver completely. Once the software has been removed, install the new software.

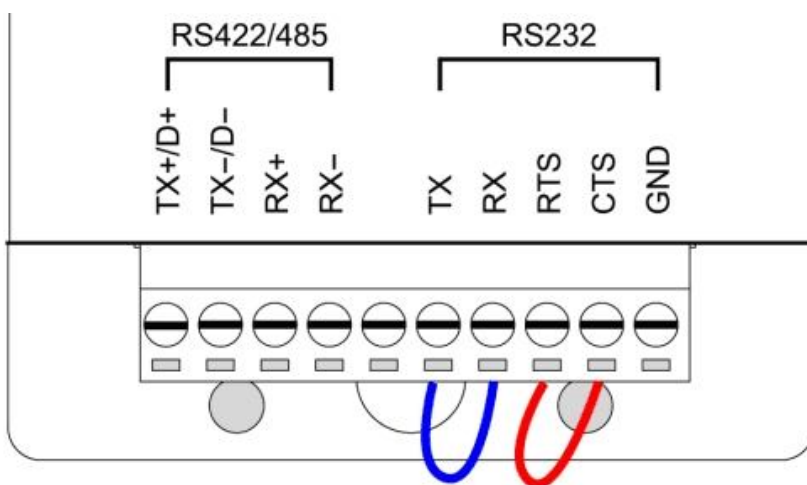


## 5. How to test TRP-C08

Trycom Technology Co.,Ltd offers test utility, this is utilities may help user to demo and test TRP-C08 fast and easily. User may find the utilities in Trycom support CD or download from Trycom web [www.trycom.com.tw](http://www.trycom.com.tw) , direct to perform TRPCOM.exe from the directory.

### 5-1.RS232 Loop Back Test

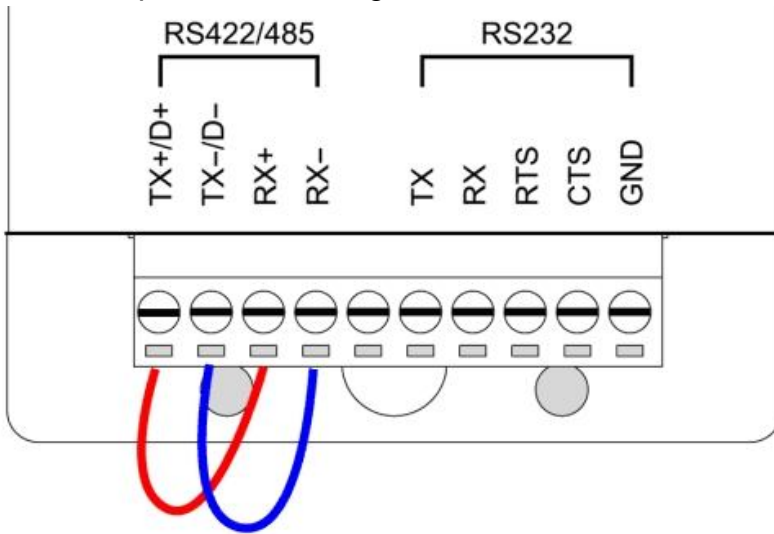
RS232 loop back test wiring connection.





## 5-2.RS422 Loop Back Test

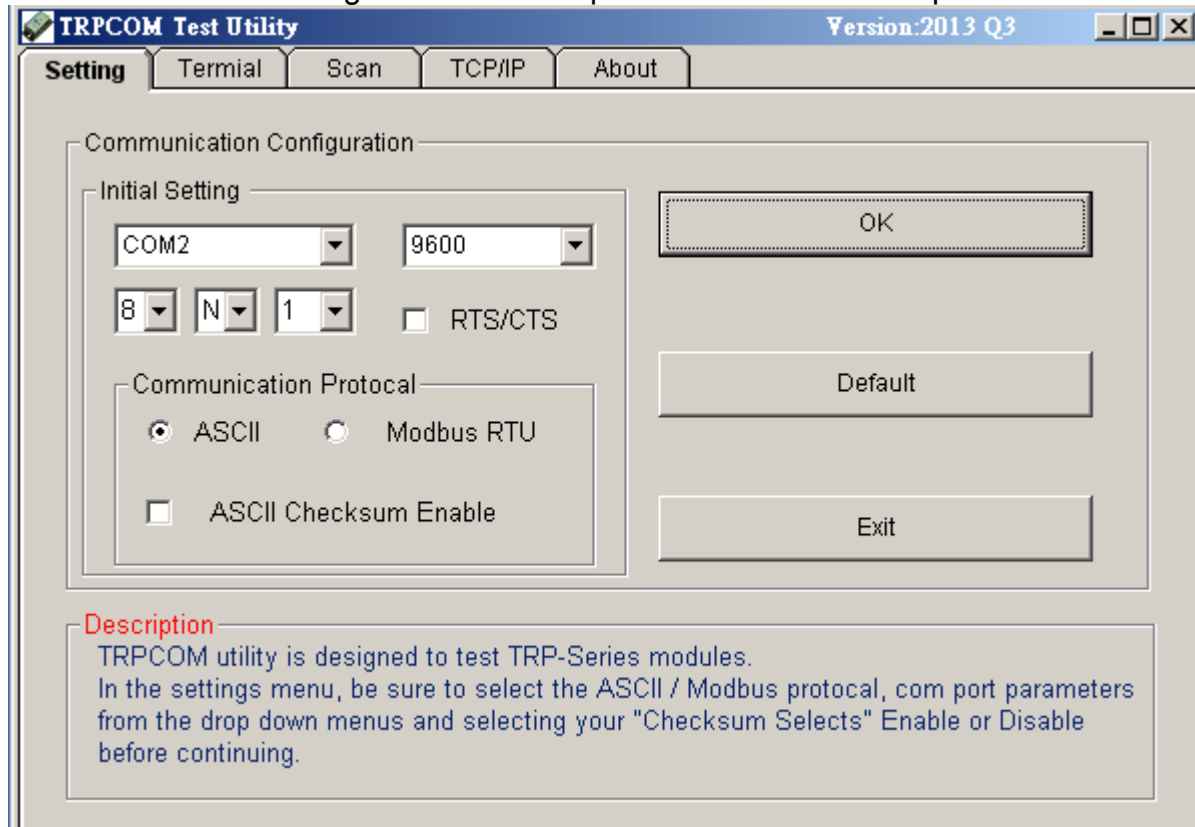
RS422 loop back test wiring connection.



## 5-3.Loop Back Test Software

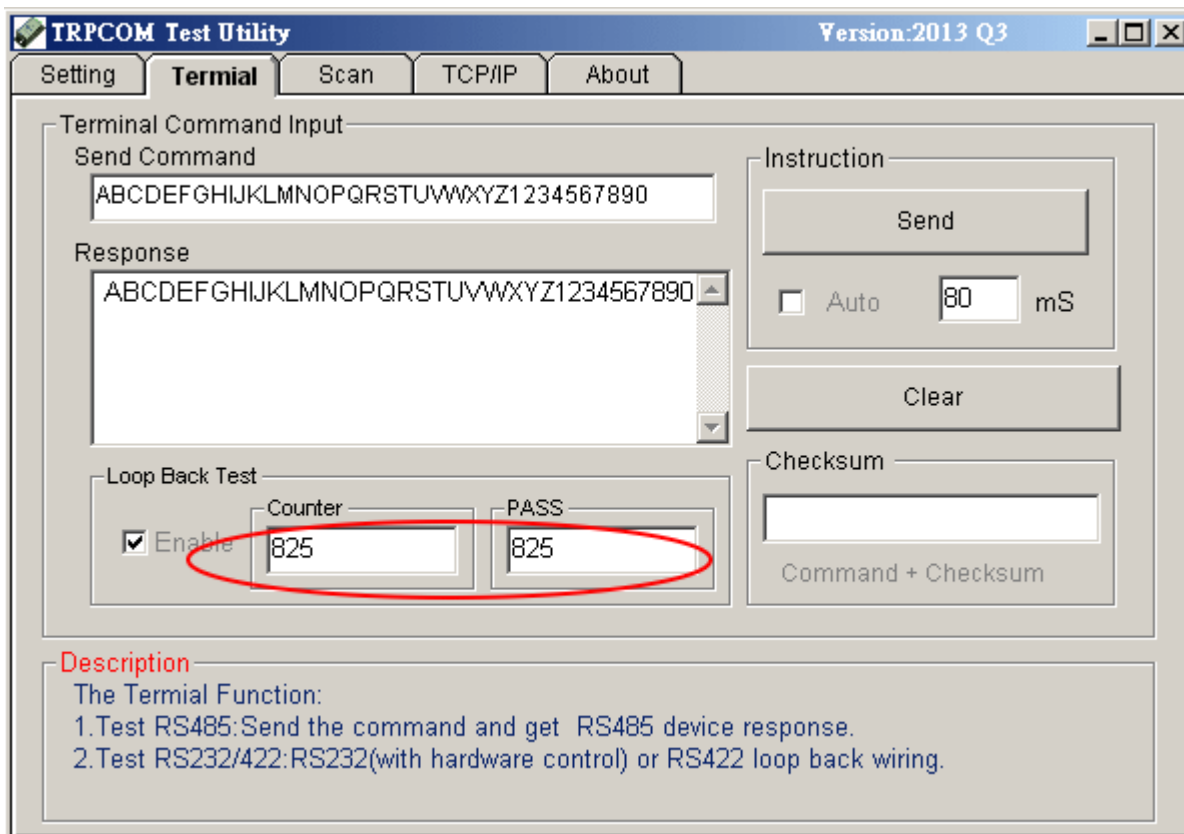
**STEP1:** Run the “TRPCOM.EXE” utility.

**STEP2:** Click the “Setting” to set the com port and baud rate then press OK .



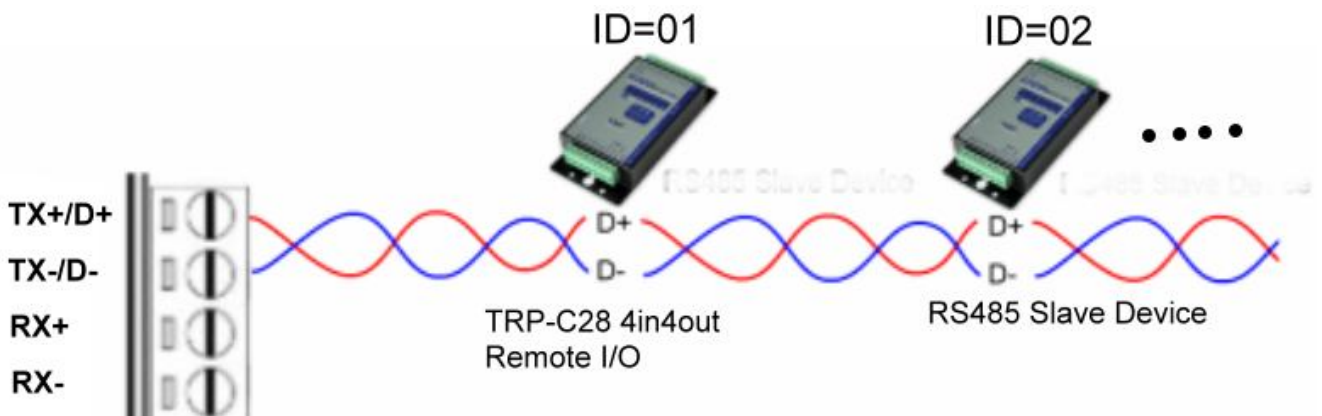
\*Please note: “COM2” is an example of COM port number; the real COM number is assigned by user PC.

**STEP3:** Click the "Terminal" then select Loop back enable, the counter value and pass value will be synchronized counts.



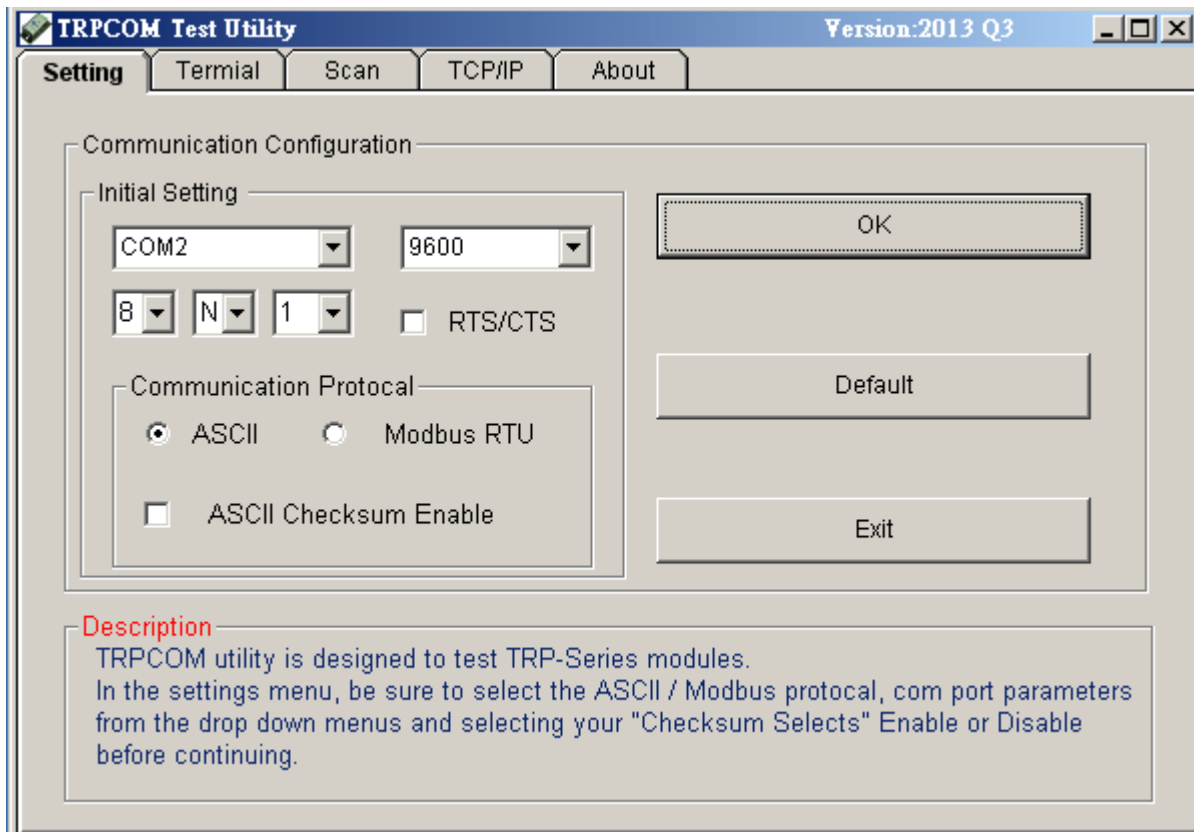
#### 5-4. RS485 test

RS485 test mode, it can be connected to RS485 Device, such as connecting TRP-C28, send "\$01M" instruction from the client side, when the TRP-C28 received command that will response "!01TRPC28" indicates execution completed.



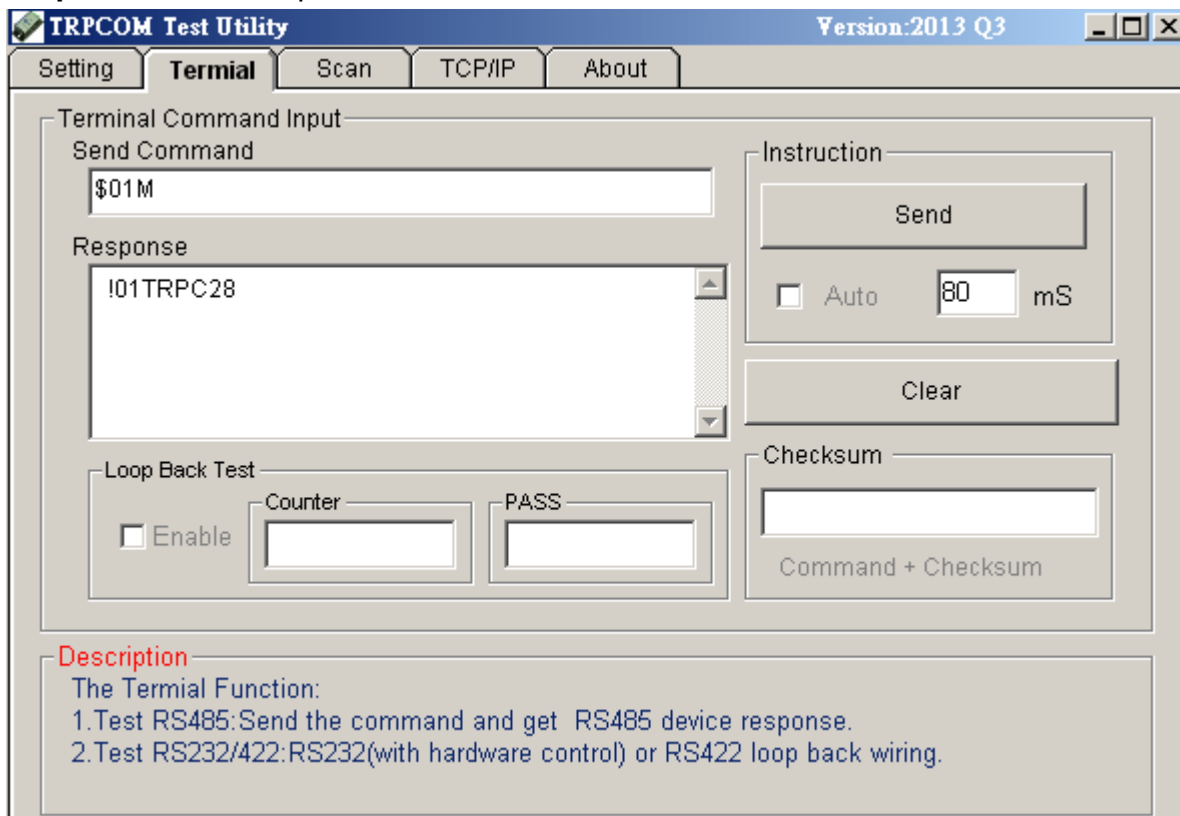
**Step1.** Run TRPCOM.exe utility.

**Step2.** Click the "Setting" to set the com port and baud rate then press OK.



**Step3.**Send command "\$01M" and press "Send" button.

**Step4.** TRP-C28 response received.



## 6. TRP-C08 Application.

