TRP-C07

RS422/485 Isolated Repeater

User's Manual

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1. Introduction

TRP-C07 is designed to extend the RS422 and RS485 signals to another 4000ft (1200m) distance and increase the maximum number of connected nodes up to 32 sets. Aside from extension function TRP-C07 provides with auto configuration features in data format detecting, baud rate setting and RS485 data direction flow control. TRP-C07 is equipped with photo-couplers and internal surge protection to protect the module and all data lines against high voltage spikes, as well as ground potential differences. The industry standard DIN rail and panel mounting design enable user a fast and professional installation. TRP-C07 is the ideal solution for the user who wants to automate their application quickly, safely and cost-effectively.

1-1.   Features

➢ Wide input range DC power supply.

➢ Automatic data format configuration.

➢ Auto direction flow control on RS485.

➢ Auto baud rate switching from 300bps to 115.2Kbps.

➢ RS485 bi-directionally communication.

➢ 3000   DC isolated protection.

➢ Surge protection on RS422/485 data lines.

➢ Power/TX/RX mode LED indicator.

➢ Support screw terminal and external DC adapter.

➢ DIN rail or panel mount support.

1-2. Specification

➢ Power input voltage: DC +10V to +30V.

➢ Power input type: Support screw terminal or external DC adaptor.

➢ Interface: Industrial plug-in screw terminal.

➢ RS485 signal: differential 2 half-duplex wires. (D+,D-).

➢ RS422 signal: differential 4 full-duplex wires. (TX+,RX+,TX-,RX-).

➢ Plug-in screw terminal wiring: Accepts AWG -#12~30 wire.

➢ Distance: extend RS422/485 signal up to 4000ft. (1200M).

➢ Isolation voltage: 3000V DC.

➢ LED indicator: Power, TX, and RX.

➢ Power consumption: 1.2 watt.

➢ Operating Temperature：-20 to 65℃.

➢ Storage Temperature: -20 to 65℃

➢ Humidity: 10-90% Non-condensing.

➢ Dimension: 151mm X 75mm X 26mm

➢ Weight: 380g.

2. TRP-C07 Hardware description

2-1. Panel layout
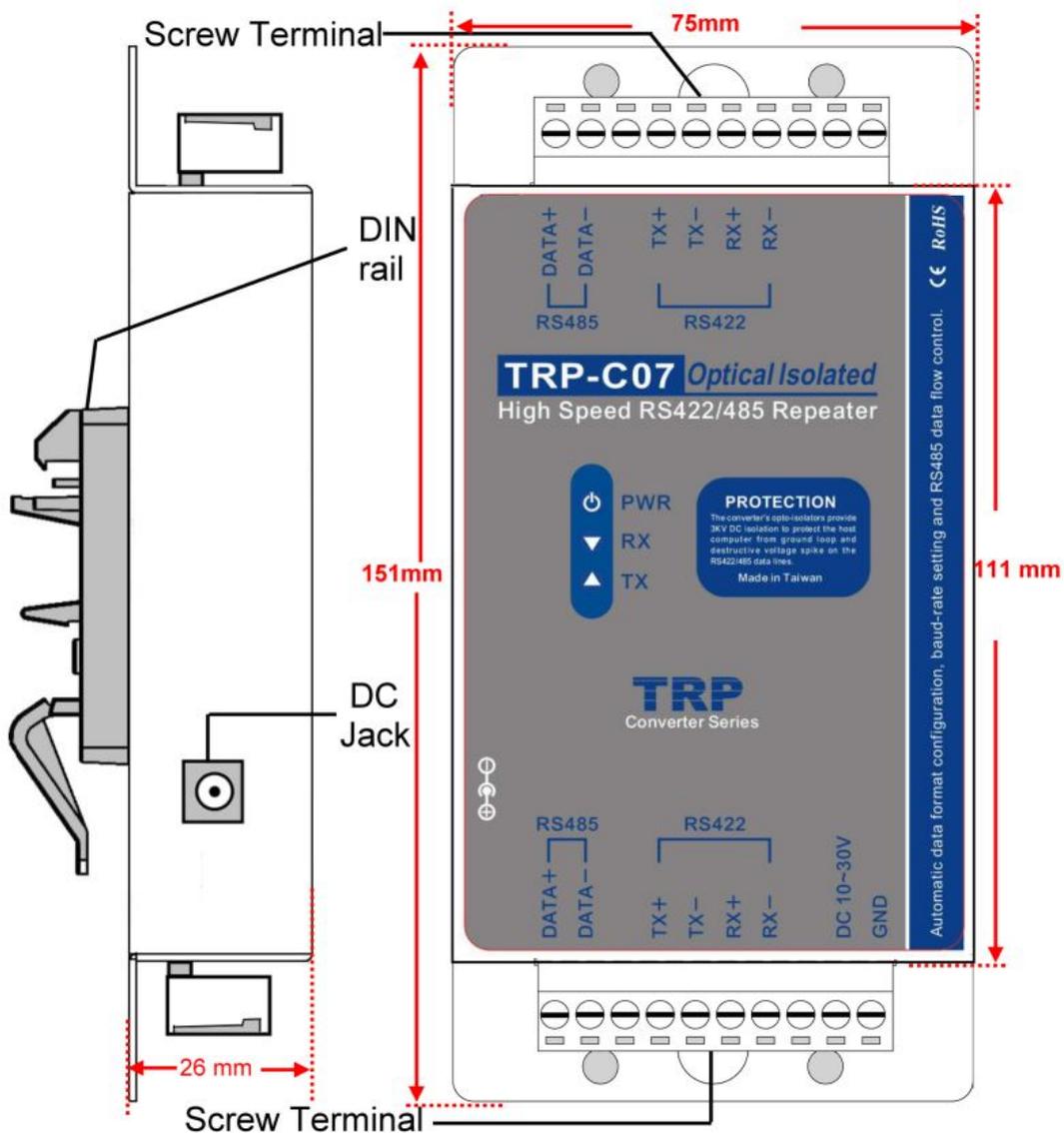
2-2. TRP-C07 block diagram
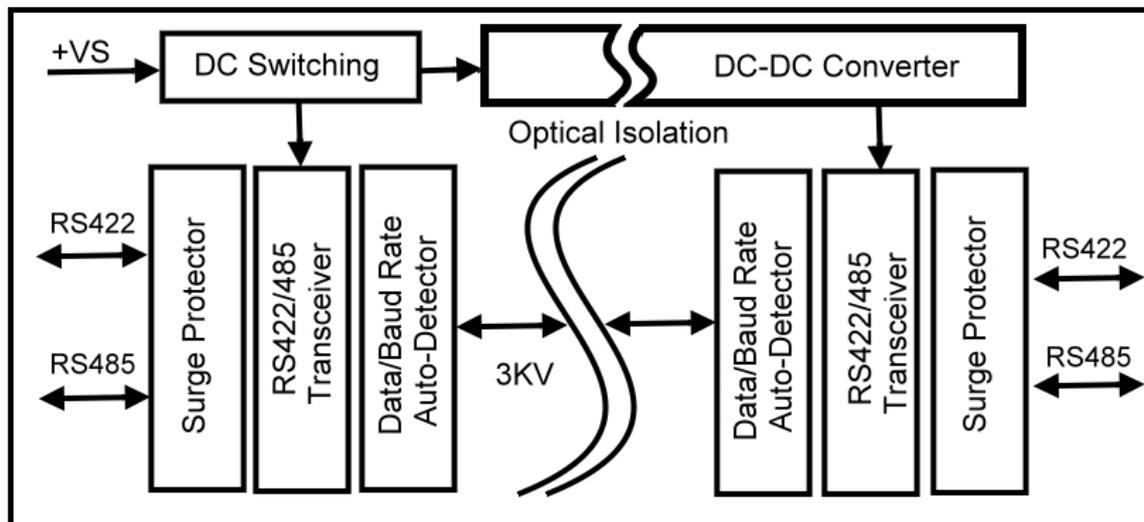
2-3. LED indicators

PWR LED: System is ready.
**RX LED:** RS422/485 receiving.
TX LED: RS422/485 transmitting.

3. Install TRP-C07

3-1. Connect power source with TRP-C07

The TRP-C07 has a two pins terminal block and power jack. Power can be supplied from terminal block or external power adapter and supports wide input range from +10~30V. When power is correctly supplied the PWR LED will lighting and indicate the system is up and running. It is highly recommended use the power jack specification 5.5*2.1*12mm if the power supply is from external DC plug.

3-2. Connect TRP-C07 with RS422 or RS485 devices

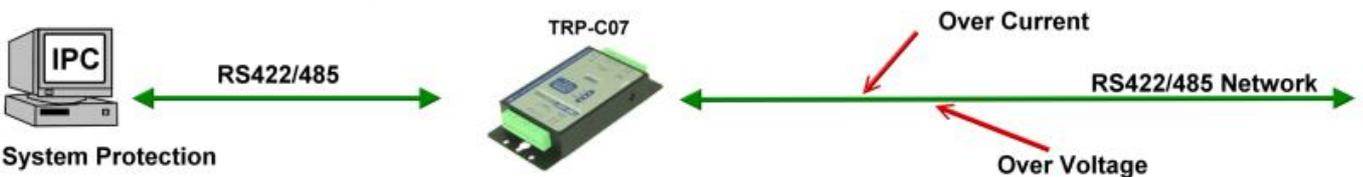### RS422 wiring Connection
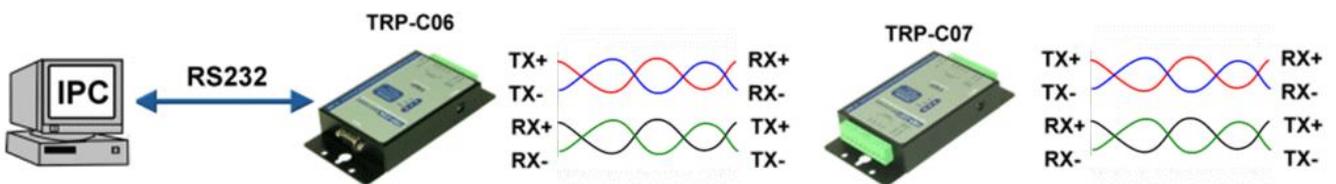
RS485 wiring connection
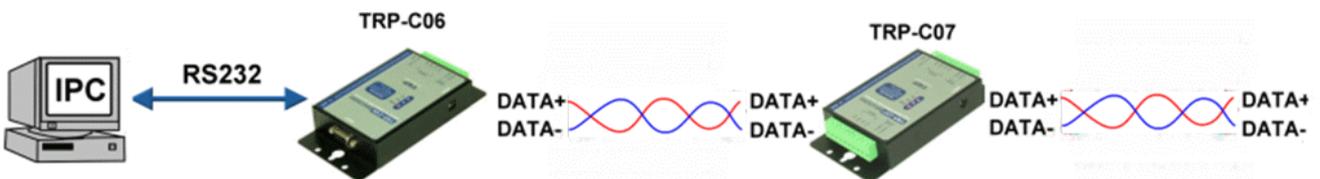
RS422 to RS485 conversion wiring connection

*TRP-C07 support bi-directionally communicate between RS422 and RS485 devices

System protection wiring connection


** TRP-C06: RS232 to RS422/485 Isolated Converter

4. How to test TRP-C07

Trycom Technology Co.,Ltd offers test utility, this is utilities may help user to demo and test TRP-C07 fast and easily. User may find the utilities in Trycom support CD or download from Trycom web www.trycom.com.tw , Please copy to the hard disk, direct to perform TRPCOM.exe from the directory.
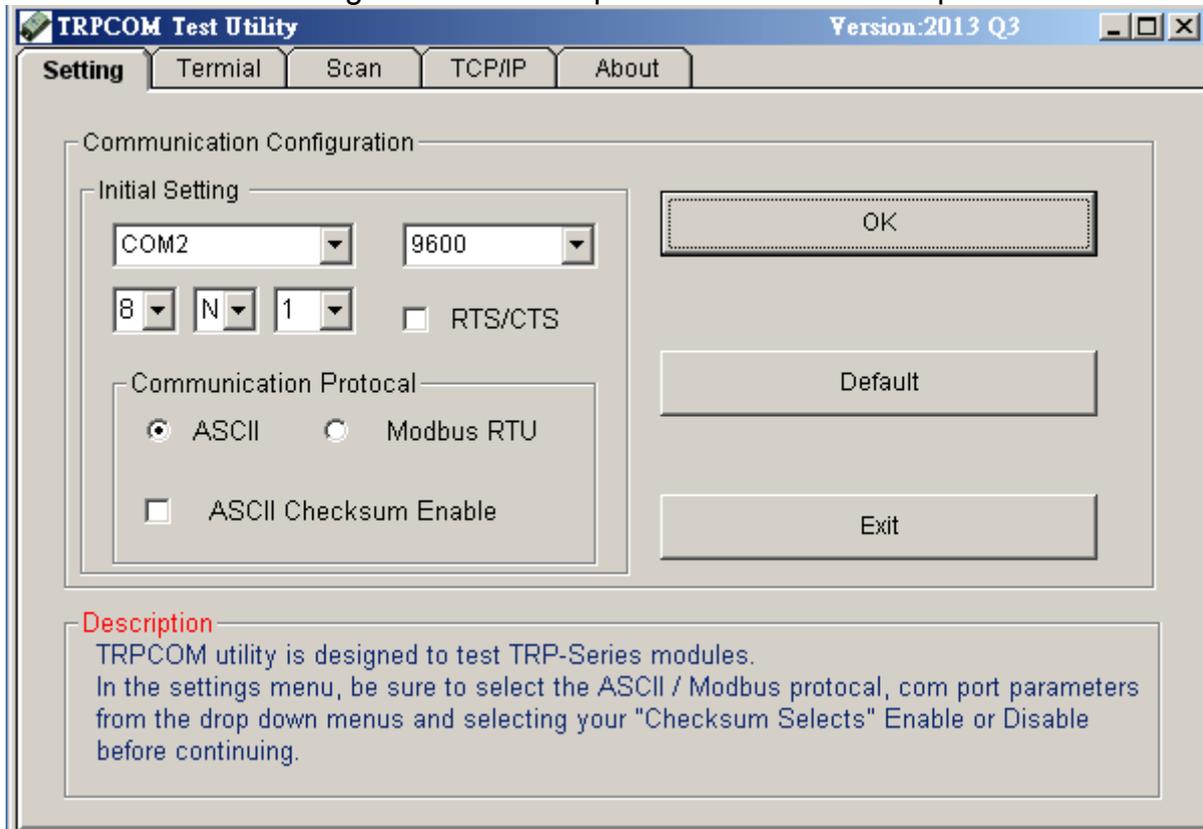
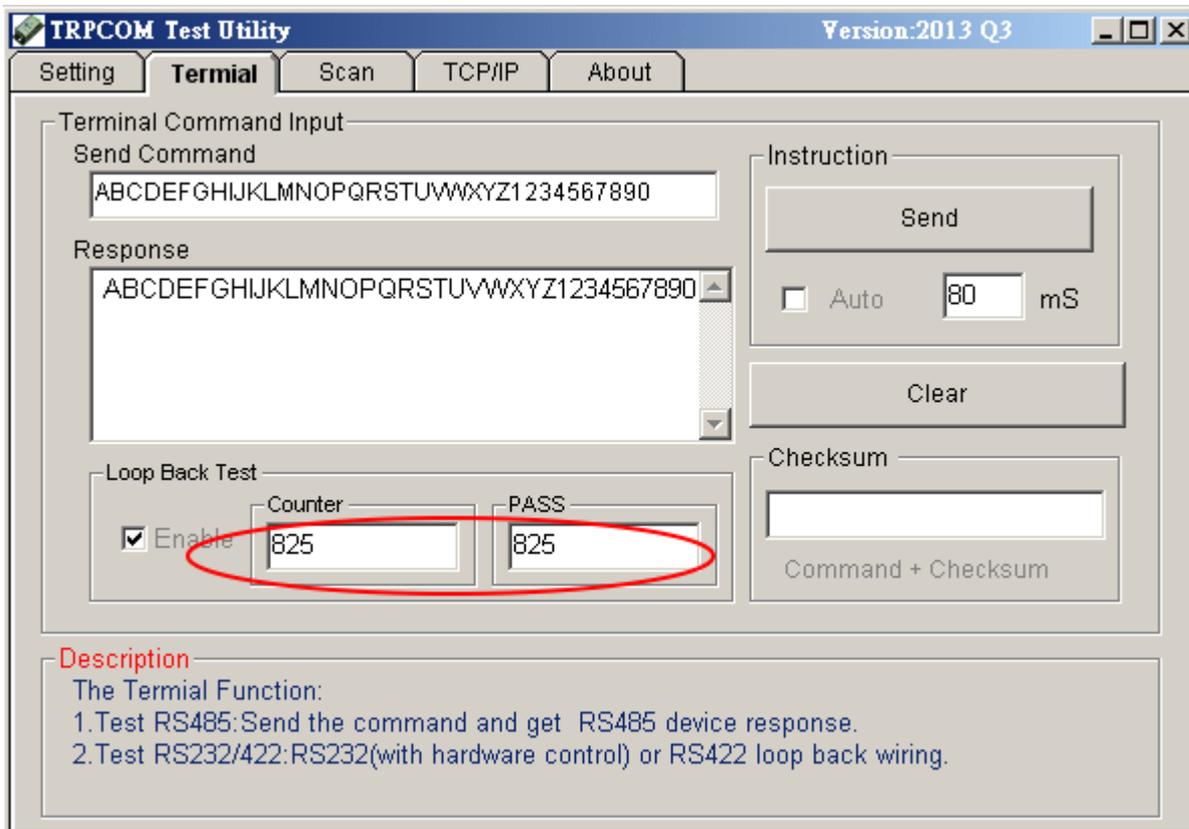## 4-1. RS422 Loop Back Test
Refer to wire connection as below
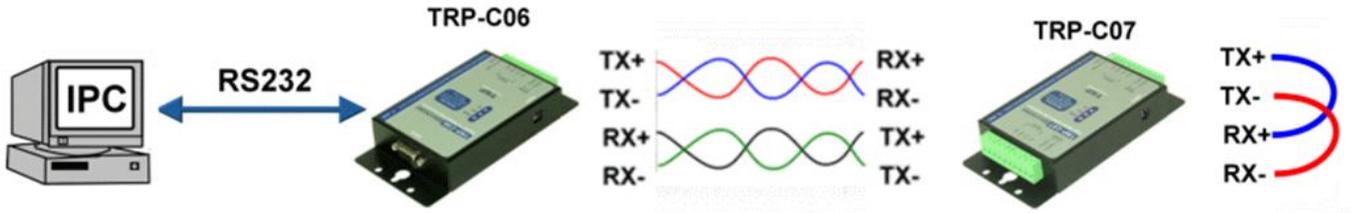
STEP1: Run the "TRPCOM.EXE" utility.
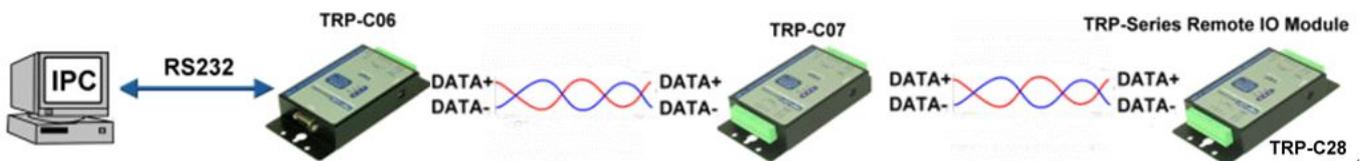**STEP2:** Click the "Setting" to set the com port and baud rate then press OK .

*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.

4-2. RS485 test

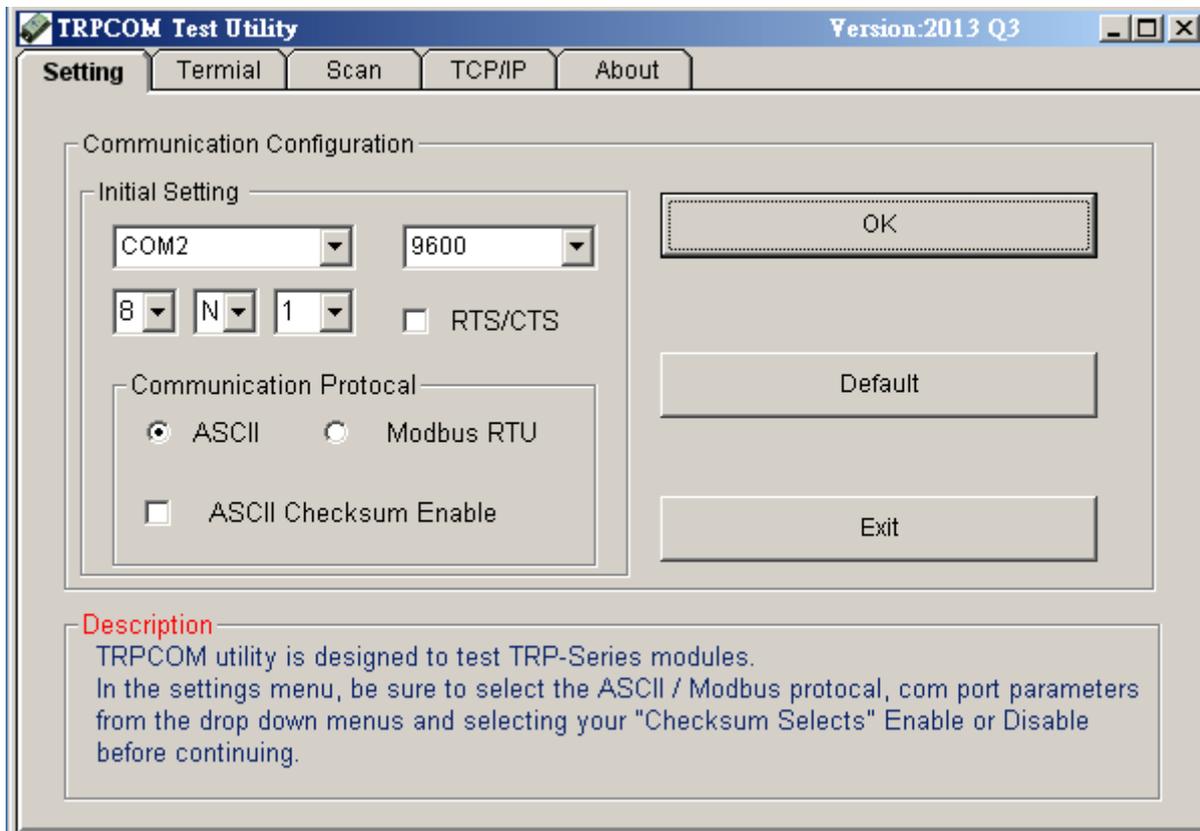The wiring connection is as below.

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.
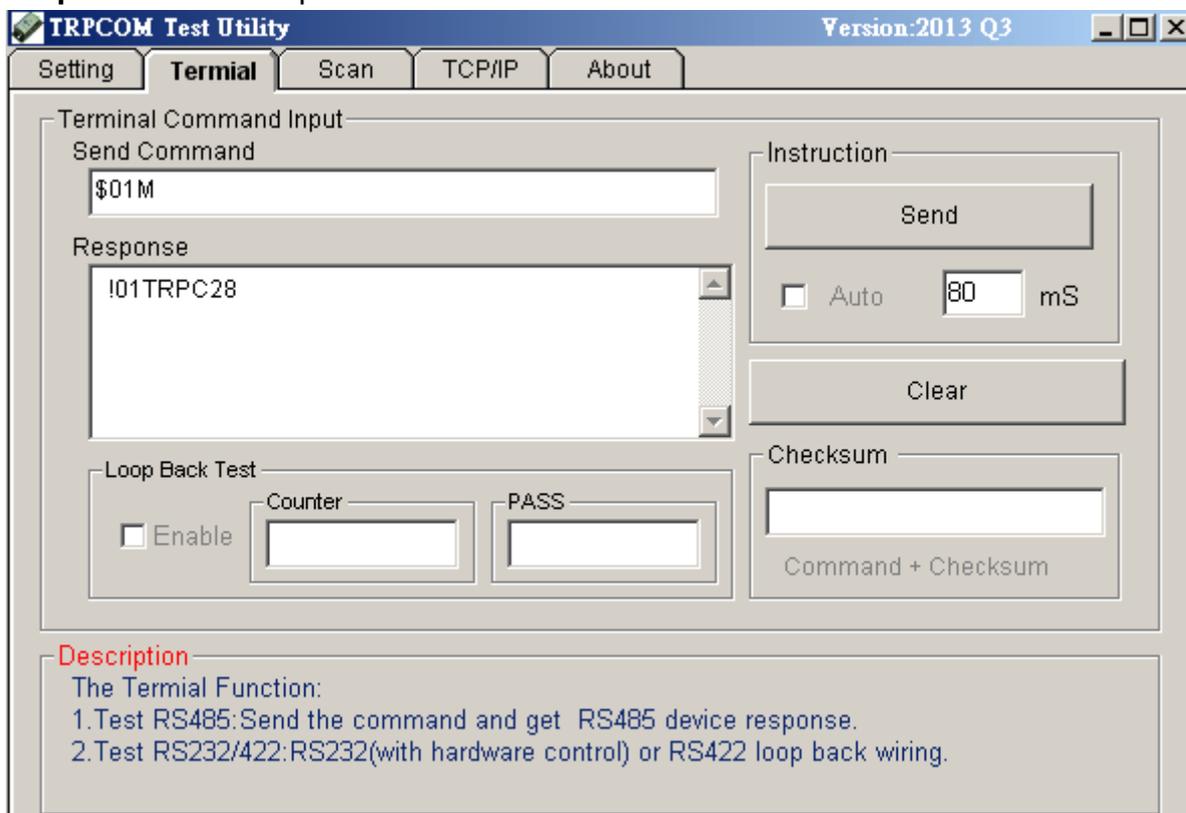
Step1. Run the "TRPCOM.EXE" utility.

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.

5. TRP-C07 Application.