TRP-C06

User's Manual

RS232 To RS422/485 Optical Isolated Converter

1. Introduction

The TRP-C06 allows RS232 line signal to be bi-directionally converted to RS422 or RS485 standard and transmit data up to 1.2KM. Featuring automatic data format and baud rate detect function user just need to plug in the unit and go without extra configuration efforts. TRP-C06 is equipped with 3000V DC of isolation and internal surge protection on data lines to protect the host computer and converter 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.

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.

➢ 3000 VDC isolated protection.

➢ Surge protection on RS422/485 data lines.

➢ Power/TX/RX mode LED indicator.

➢ Support screw terminal and external DC power adaptor.

➢ Din rail or panel mounts support.

1-2. Specifications

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

➢ Host connection: Standard D-Sub 9 pin female connectors.

➢ RS232 interface: Standard D-Sub 9 pin female connector

➢ RS232 signal: TXD, RXD, GND.

➢ RS422/485 interface: Industrial plug-in screw terminal.

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

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

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

➢ Transmission distance: RS422/485 up to 4000ft. (1200M).

➢ Communication speed: from 300bps to 115.2Kbps.

➢ Isolation voltage: 3000V DC.

➢ Serial data format: Asynchronous data with any combination of bits, parity, stop.

➢ Signal LED: Power on, TX, and RX.

➢ Power supply: Screw terminal, or external DC adapter.

➢ 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: 375g.

2. Hardware description

2-1. TRP-C06 Panel Layout
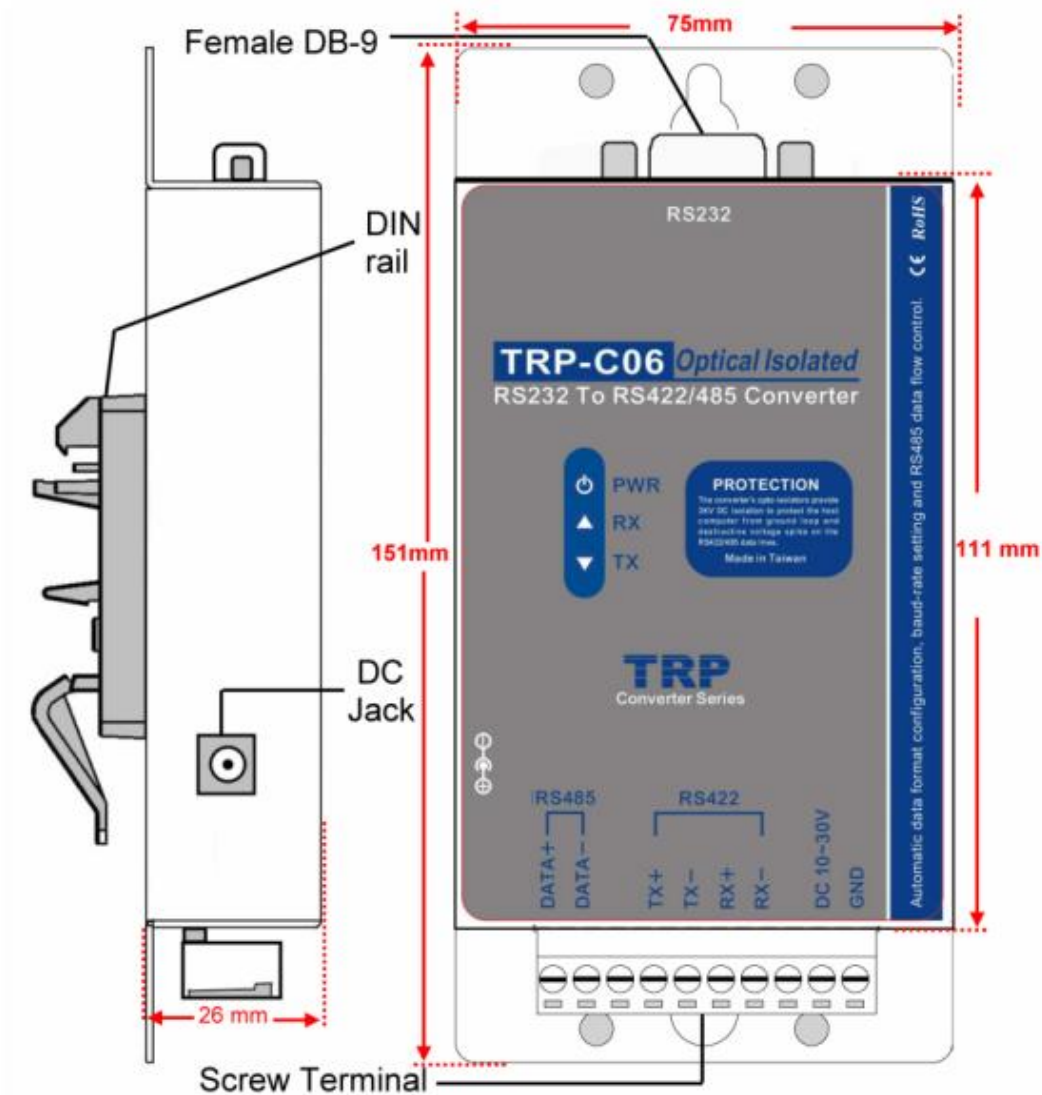
2-2. TRP-C06 Block Diagram
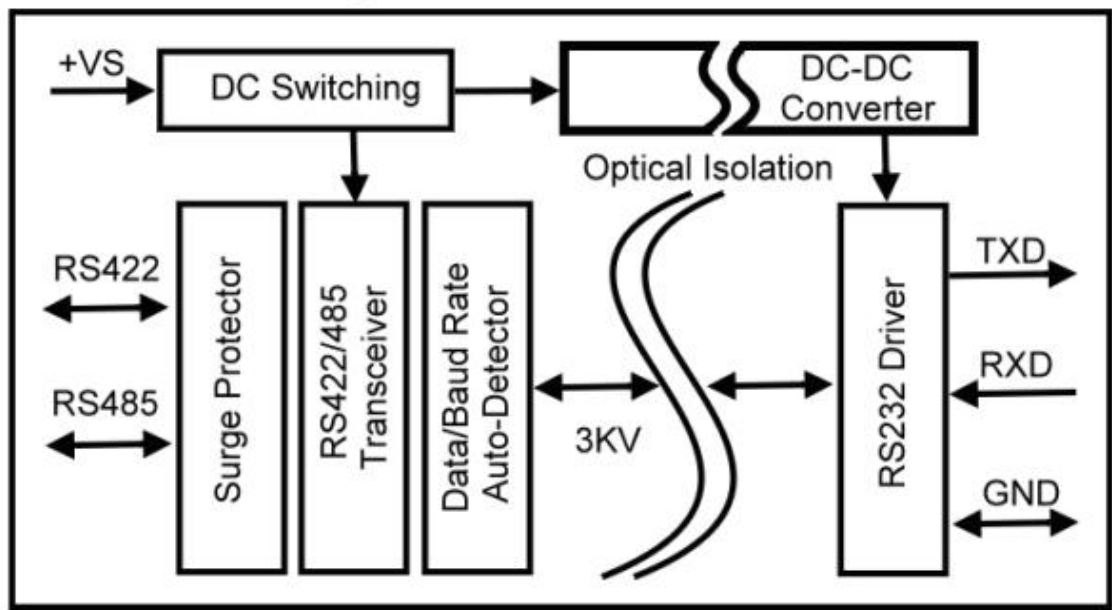
2-3. LED Indictor

PWR LED: System is ready.
RX LED: RS232 receiving.
TX LED: RS232 transmitting.

3. Install TRP-C06

3-1. Power Connection

The TRP-C06 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 indicates the system is up. It is highly recommended use the power jack specification 5.5*2.1*12mm, if the power supply is from external DC plug.

Warning: User can only choose one of following 2 power sources.
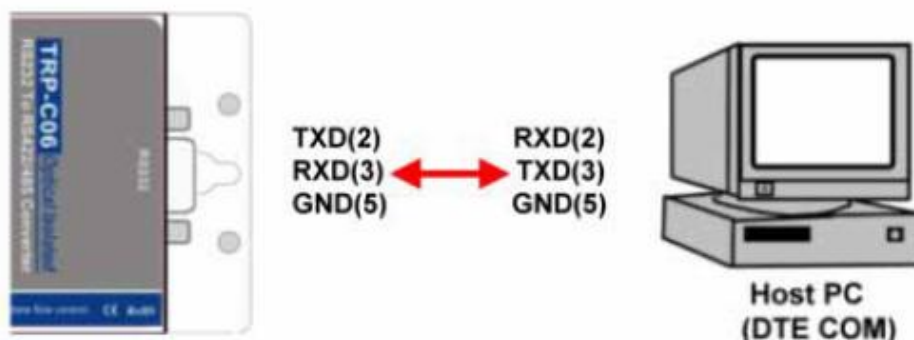1. External DC adapter. 2. Screw terminal DC input
Do not use both power input simultaneously.

## 3-2. RS232 Female Pin Configuration for TRP-C06
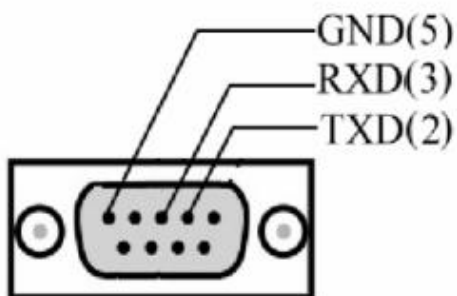
Notice: Due to the Hardware flow control problem will connecting some device just like PLC and it will caused TRP-C06 can't work, please take TRP-C06 's DB-9 PIN side   (PIN 1,4,6 SHORT and 7,8 SHORT,
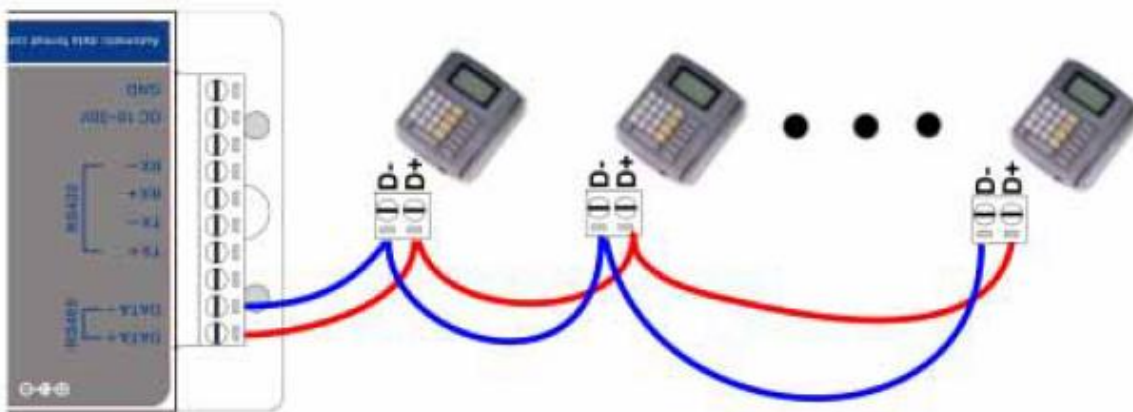
3-3. RS232 wiring connection

3-4. RS422 wiring connection

The TRP-C06 RS422 mode supports 4 channels with full duplex operation for receive, transmit, and the data lines are in differential pairs. The wire connection is shown as
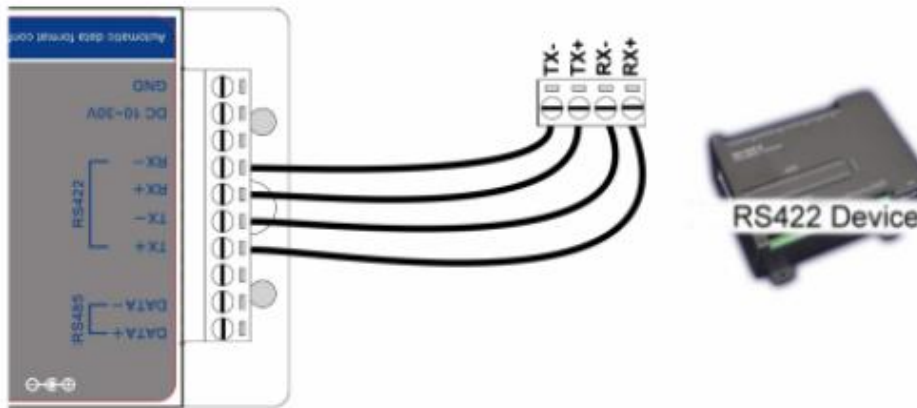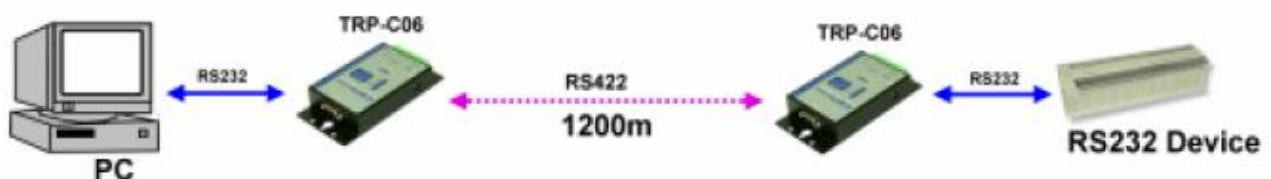

3-5. RS485 wiring connection

The TRP-C06 RS485 mode supports transmit and receive channels by using 2-wire half-duplex operation. The wire connection is shown as

3-6. PC to RS232 device by RS422 wiring connection.

4. How to test TRP-C06

Trycom Technology Co., Ltd offers demo and TRPCOM test utility; these utilities may help user to demo and test TRP-C06 fast and easily. User may find the utilities in Trycom support CD or download from Trycom web www.trycom.com.tw. The testing utility includes

RS422 test utility:
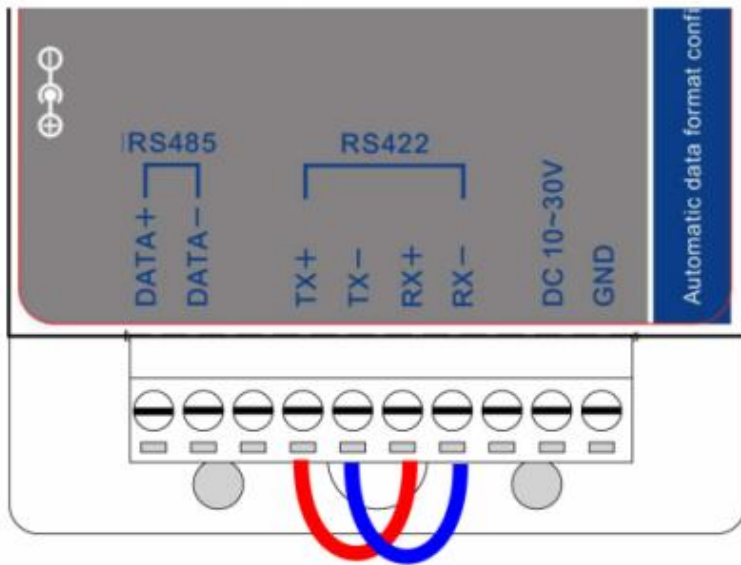Test422.exe for DOS
DEMO.exe for Windows

RS485 utility:

Test485.exe for DOS

TRPCOM for Windows

4-1. RS422 loop back test

Refer to wire connection as below

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STEP1: Run the "DEMO.EXE" utility (See the Figure 1).
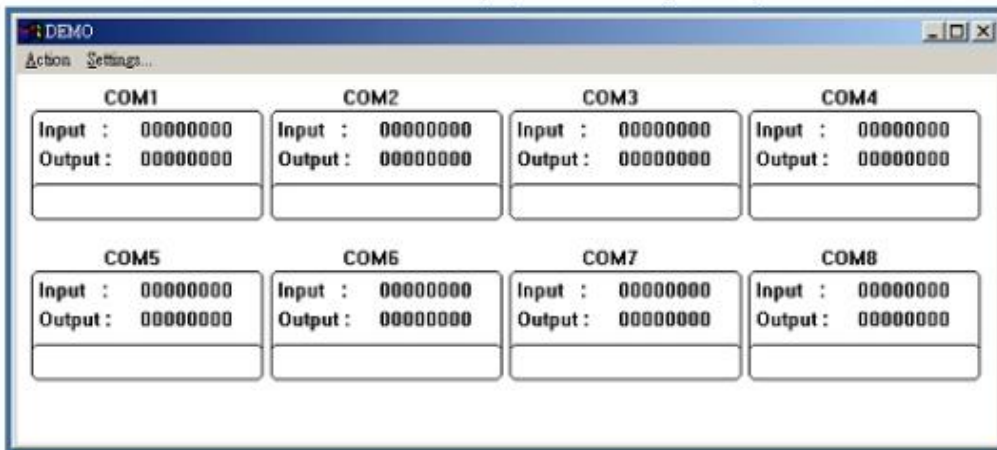

Fig.1

STEP2: Click the "Setting" to set the com port and baud rate (See the Figure 2); the demo setting screen will appear as Fig.2.
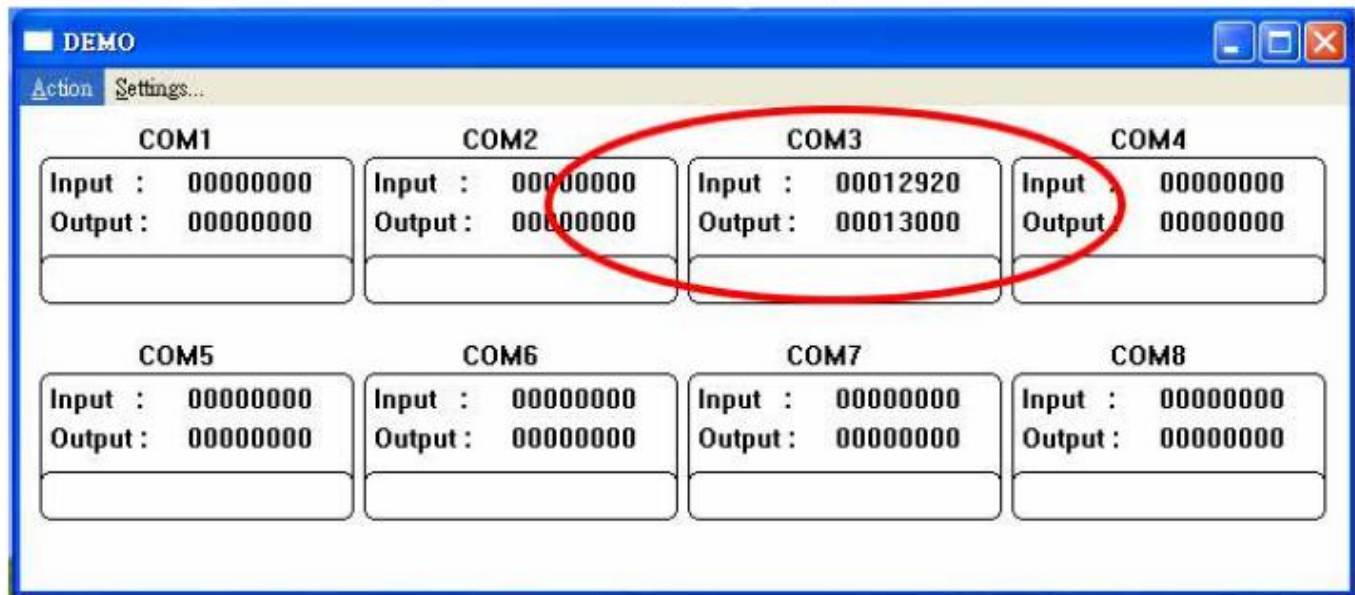

Fig.2

*Please note: "COM3" is an example of COM port number; the real COM number is assigned by

STEP3:.Click the "OK" the utility will show the input and output status.


4-2. RS485 test

Refer to 3-5 for RS485 wire connection. User may also directly link TRP-C06 to Trycom Remote IO modules, the wiring connection is as below.
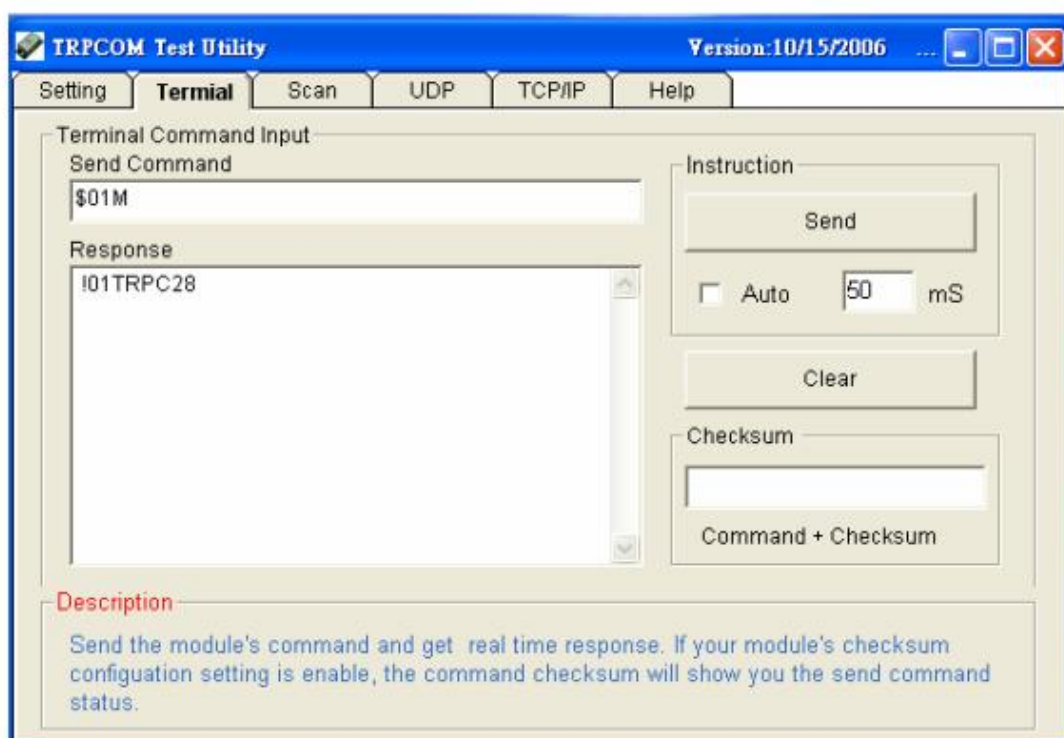

Step1. Install TRPCOM utility.

TRPCOM is a test utility which may help user to test TRP-C06 with RS485 device easily. User may find the utility in the TRP-C06 support disk. Double click "setup.exe", the install Wizard will guide you to complete the installation.

Step2. Configure COM port and baud rate, after configuration press "OK" to the next screen.
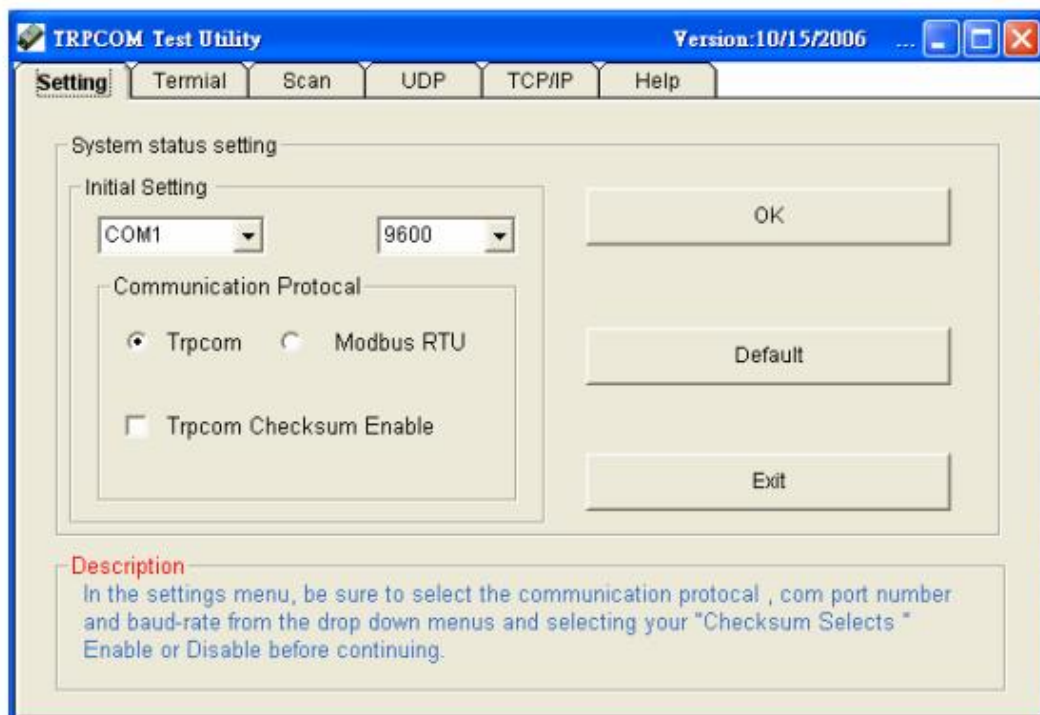
Step3.Send command "$01M" and press "Send".

Step4. Data response received.

Test complete.