TRP-C39
User's Manual

Fiber to RS-232/422/485 Isolated

Converter, ST Multi-Mode

1.Introduction

The TRP-C39 fiber converter allows RS-232/422/485 signals to be bi-directionally converted to fiber optic and extend the distance up to 2KM over multi-mode. By using fiber optic transmission technology TRP-C39 secures a stable and error free data transmission over the industrial environments present electrical noise and ground differential challenges, especially over long distances. TRP-C39 support data format, baud rate and data direction auto configuration, it also provides with 3000V DC isolation and internal surge protection. The industry DIN rail and panel mounting design enable user a fast and professional installation.

1-1.Features

➢ Wide range power input voltage.
➢ ST Multi-mode fiber port.
➢ Auto direction flow control on RS-485.
➢ Automatically switch signal RS-232, RS-422 and RS-485.
➢ Support 3000V DC isolation protection.
➢ All RS-422/485 signals provide surge and over current protection.
➢ Power/TX/RX mode LED indicator.
➢ Fiber transmission distance up to 2KM.
➢ Auto baud rate switching from 300bps to 115.2Kbps.
➢ Support Din-Rail and panel mount.

1-2.Specifications

➢ Power Input Voltage: DC +10V to +30V.
➢ Interface: RS-232/422/485 auto switching to Fiber (Multi-mode).
➢ RS-232: 3 full-duplex (TXD, RXD, GND).
➢ RS-422: Differential 4 full-duplex wires (TX+, RX+, TX-, and RX-).
➢ RS-485: Differential 2 half-duplex wires (D+, D-).
➢ Cable: Fiber ST Cable (62.5/125um).
➢ Wavelength: 850 nM.
➢ Distance: RS-422/485 up to 4000ft. (1250M), and Fiber up to 2 KM.
➢ Baud Rate: From 300bps to 115.2kbps (maximum).
➢ Operating System: Windows/Linux/Unix/MAC.
➢ Connection type: Screw terminal for maximum AWG 12 wire.
➢ Signal LED: Power on, TX, RX.
➢ Power supply: Screw terminal, or standard external DC adapter.
➢ Power consumption: 1.6W.
➢ Isolation Voltage: 3000V DC.
➢ Operating temperature: 0 to 60C.
➢ Storage temperature: -20 to 70C.
➢ Humidity: 10-90% non-condensing.
➢ Dimension: 151 mm X 75mm X 2 6mm.
➢ Weight: 375g.

2. Hardware description

2-1.TRP-C39 panel layout
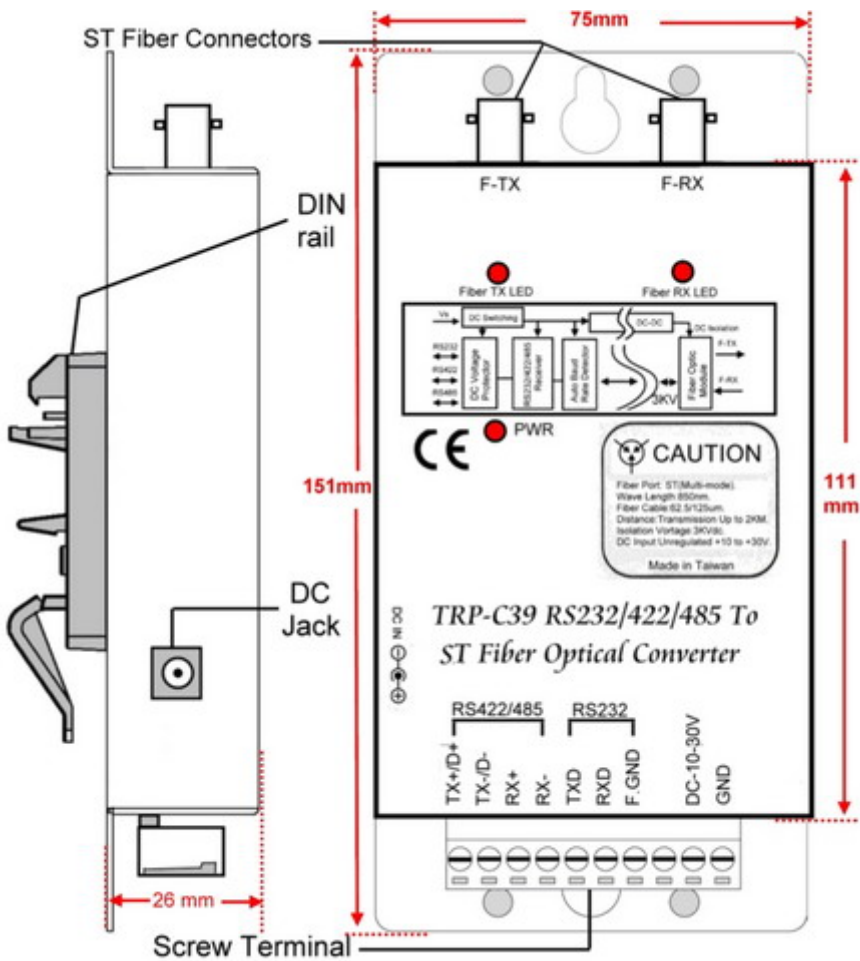
2-2. Block Diagram
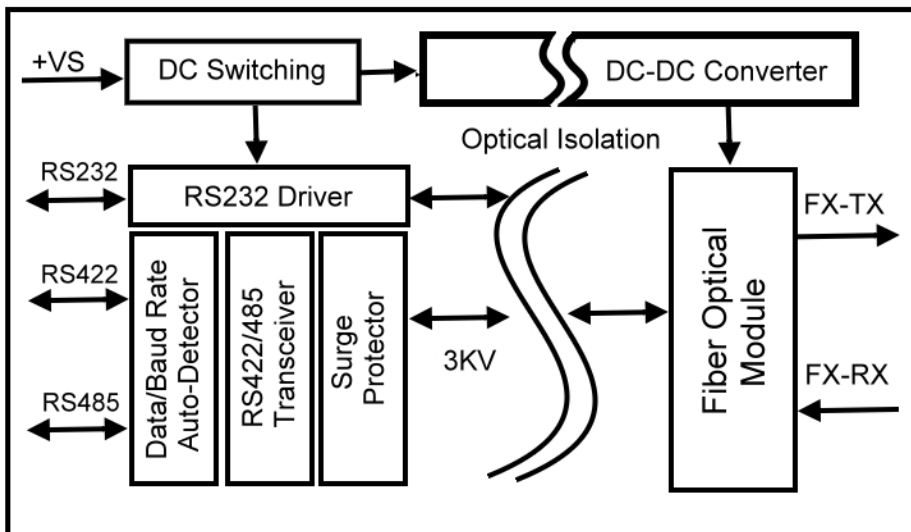
2-3. LED Indictor

PWR LED: System is ready.

TX LED: Data transmitting.

RX LED: Data receiving.

3. Install TRP-C39

3-1. Power connection

The TRP-C39 is equipped with a 2-pin 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.
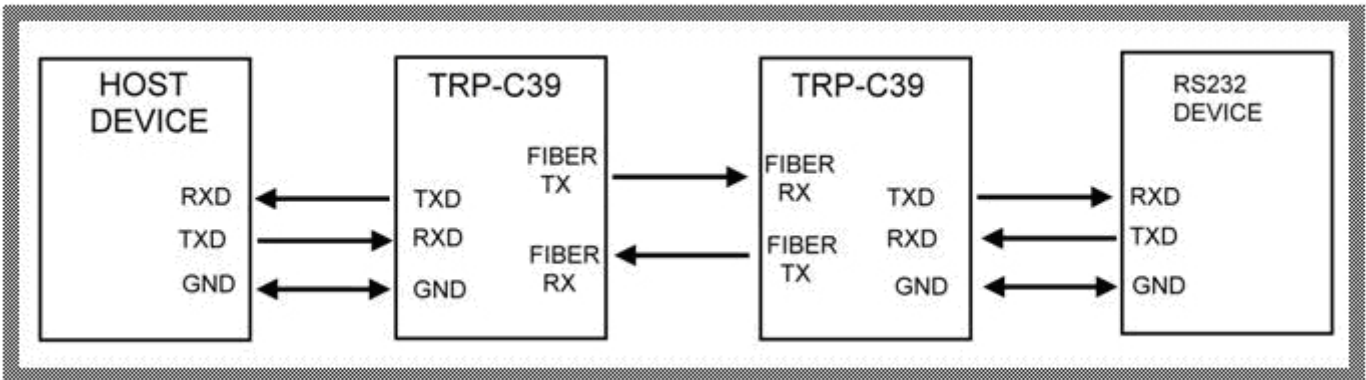
Warning: User can only choose one of following 2 power sources.
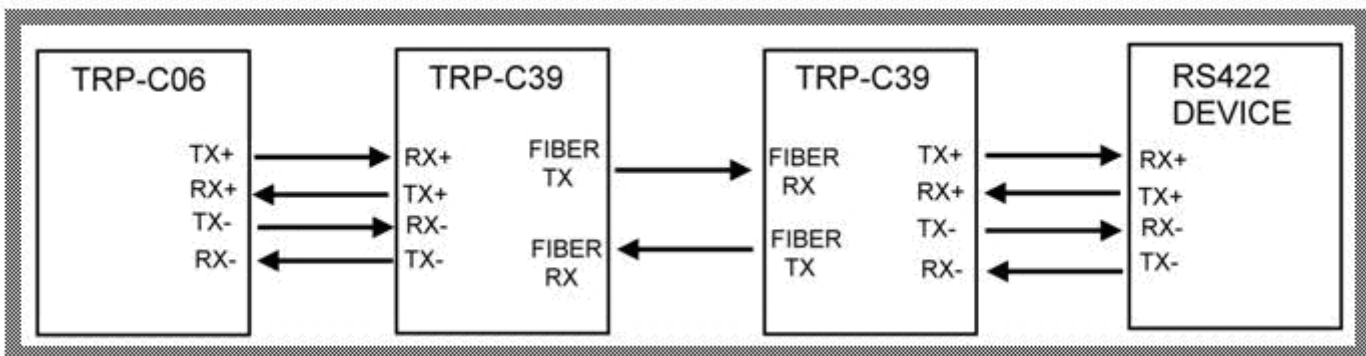1. External DC adapter. 2. Screw terminal DC input
Do not use both power input simultaneously.
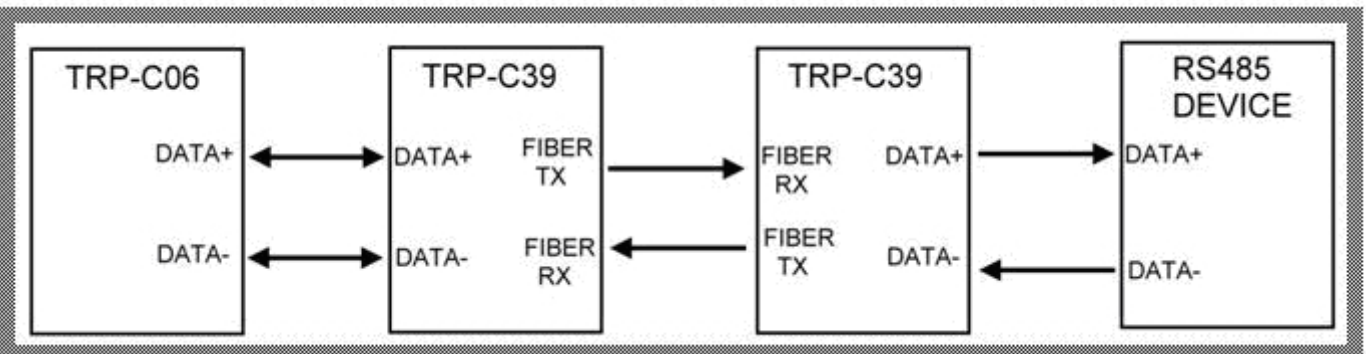
3-2. RS232/422/485 serial devices connection

3-2-1.RS-232 wiring connection

3-2-2.RS-422 wiring connection

3-2-3.RS-485 wiring connection

4. How to test TRP-C39

Trycom Technology Co.,Ltd offers demo and test utility, these utilities may help user to demo and test TRP-C39 fast and easily. User may download the utilities from Trycom web site www.trycom.com.tw. The testing utility includes.

RS-422 test utility:
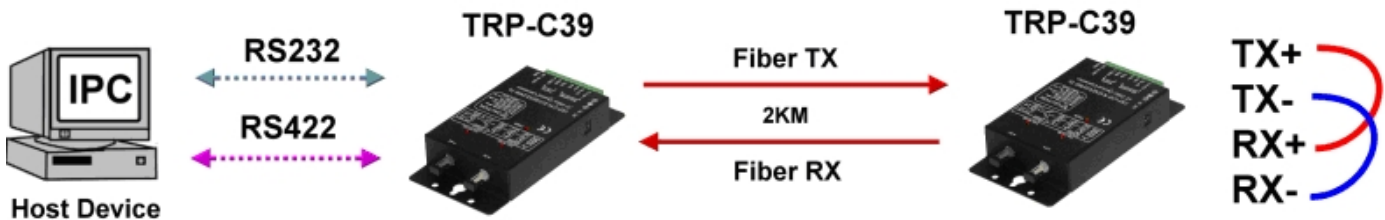
Test422.exe for DOS.

DEMO.exe for Windows.

RS-485 utility:

Test485.exe for DOS.

TRPCOM for Windows.

4-1. RS-422 loop back Test

Refer to wire connection as below.

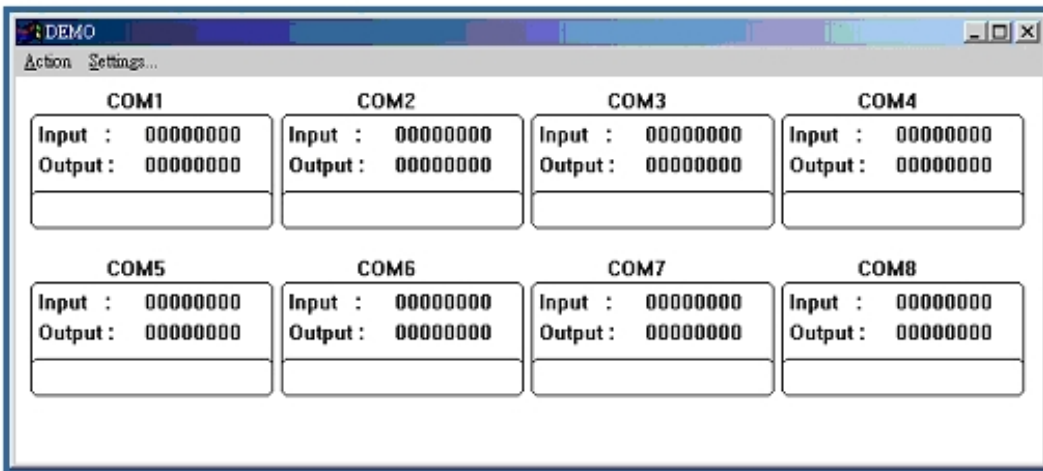**STEP1:** Run the "DEMO.EXE" utility (See the Figure 1).

Fig.1

STEP2: Click the "Setting" to set the RS-422 loop counter (See the Figure 2); the demo setting screen will shown as Fig.2.
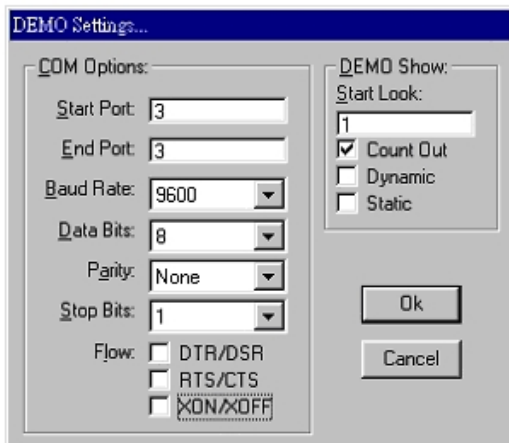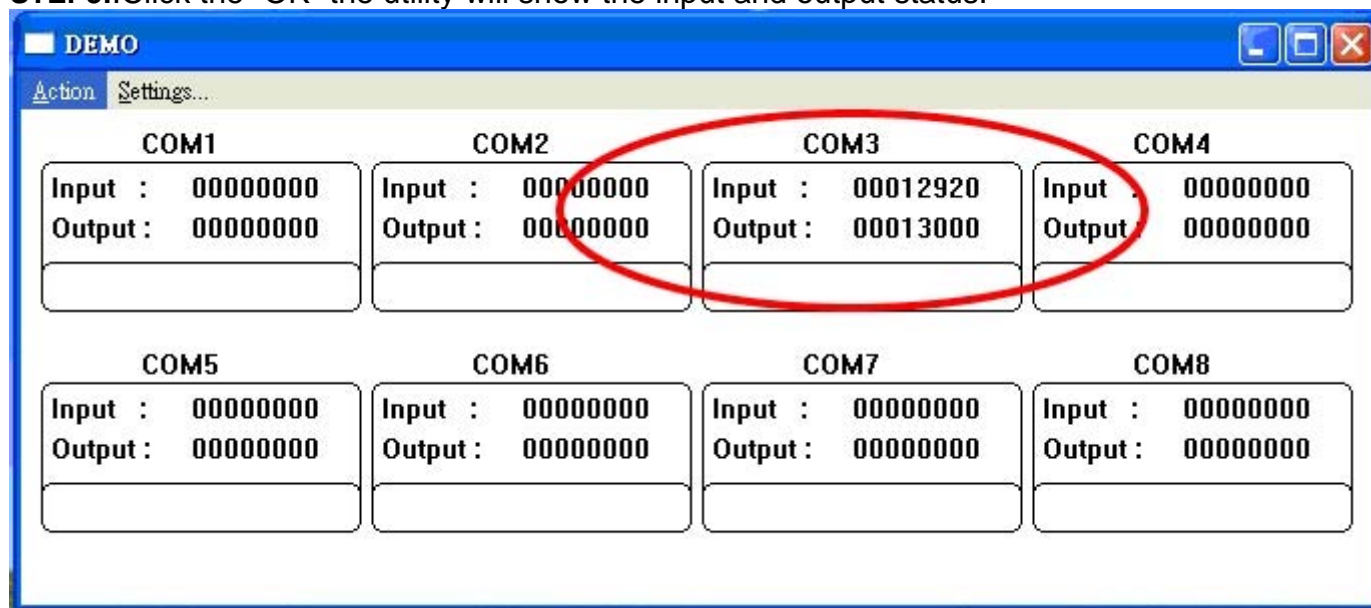

Fig.2

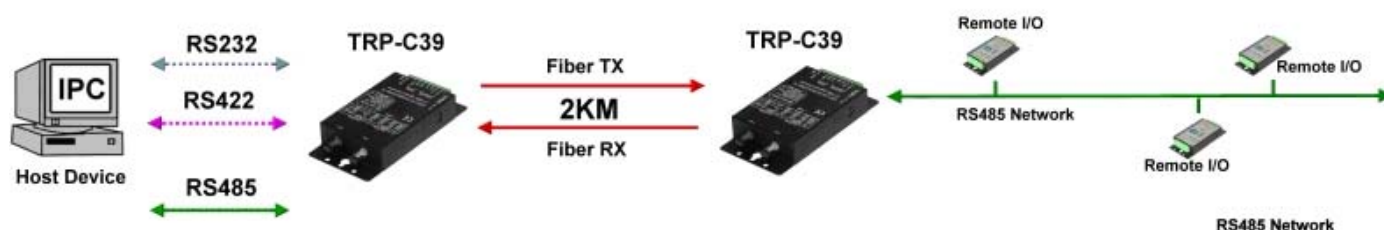**STEP3:.**Click the "OK" the utility will show the input and output status.


4-2. RS-485 test

Refer to 3-2-3 for RS-485 wire connection. User may also directly link TRP-C39 to Trycom Remote IO modules, the wiring connection is as below.
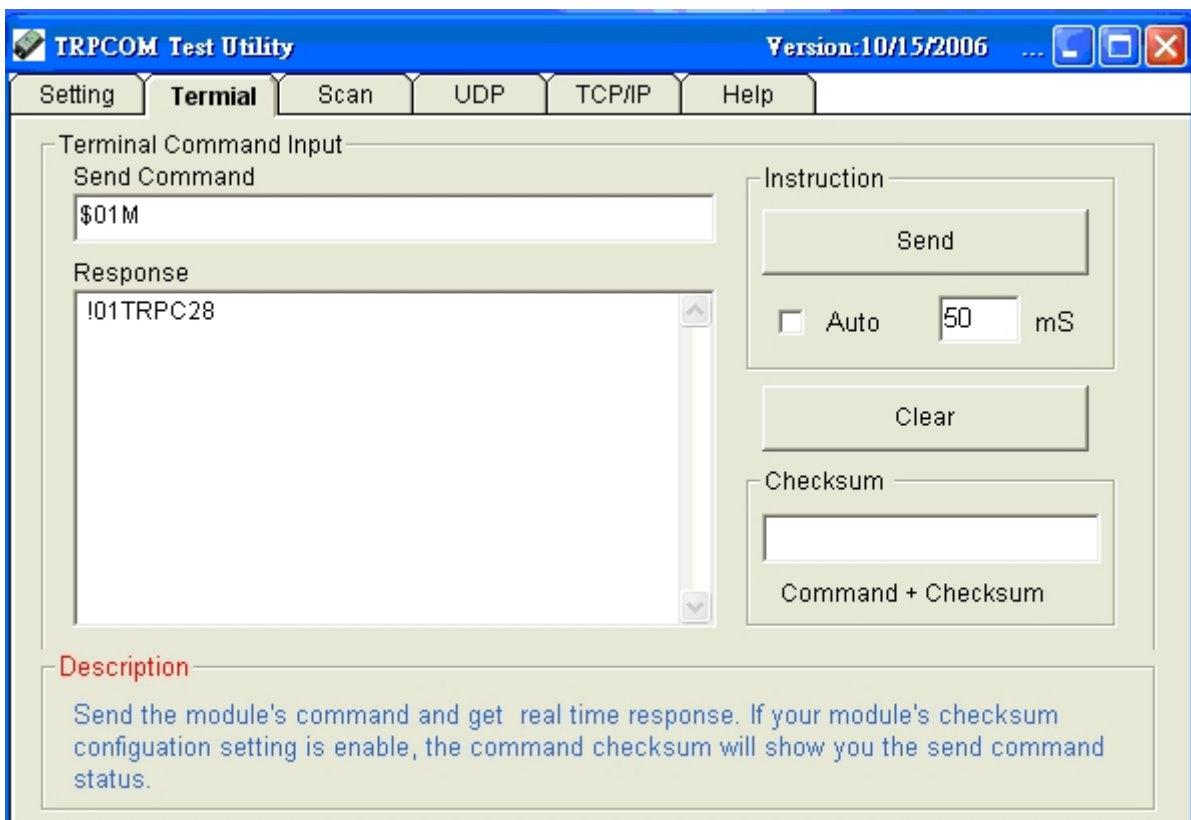

Step1. Install TRPCOM utility.

TRPCOM is a test utility which may help user to test TRP-C39 with RS485 device easily.

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.
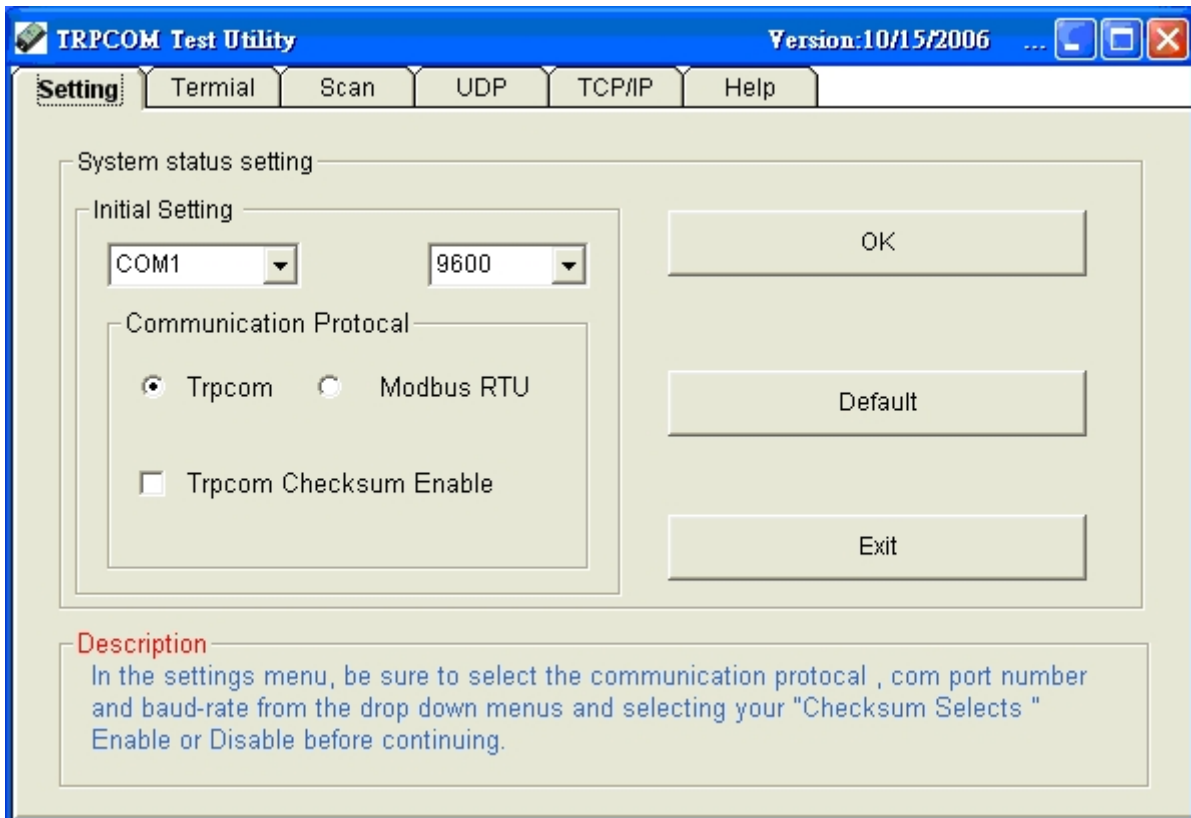
Step3.Send command "$01M" and press "Send".

Step4. Data response received.

Test complete.