

# TRP-C06H

## User's Manual

### 2-Port RS232 To RS422/485 Isolated Converter



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**Trycom Technology Co., Ltd**  
1F, No.2-11, Sihua street, Yingge Township, Taipei, Taiwan ROC  
Tel: 886-2-86781191, Fax: 886-2-86781172  
Web: [www.trycom.com.tw](http://www.trycom.com.tw)

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# 1. Introduction

The TRP-C06H allows 2 RS232 line signal bi-directionally convert to 2 RS422 or RS485 standard. Featuring data format auto detecting and baud rate auto switching (from 1.2K to 115.2Kbps) users just need to plug the unit and go without software or hardware complicated setting. The RS485 control is completely transparent to the user and software written for Half-Duplex RS232 works without any modification. The TRP-C06H provides 3000VDC of isolation to protect the host computer from ground loops and destructive voltage spikes on the RS422/485 data lines. The internal surge-protection on each data line protects the module from dangerous voltages. Industry standard DIN rail enable fast and professional installation.

## 1-1. Features

- Auto direction flow control on RS-485.
- Auto switching baud rate up to 115.2 Kbps.
- Minimum 3000 V DC isolation protection.
- Over current protection.
- All RS422/485 signals provide surge protection.
- Power/TXA/RXA/TXB/RXB mode LED indicator.
- Support screw terminal and standard external DC power adaptor.
- Wide Range Power input voltage from DC +10V to +30V.

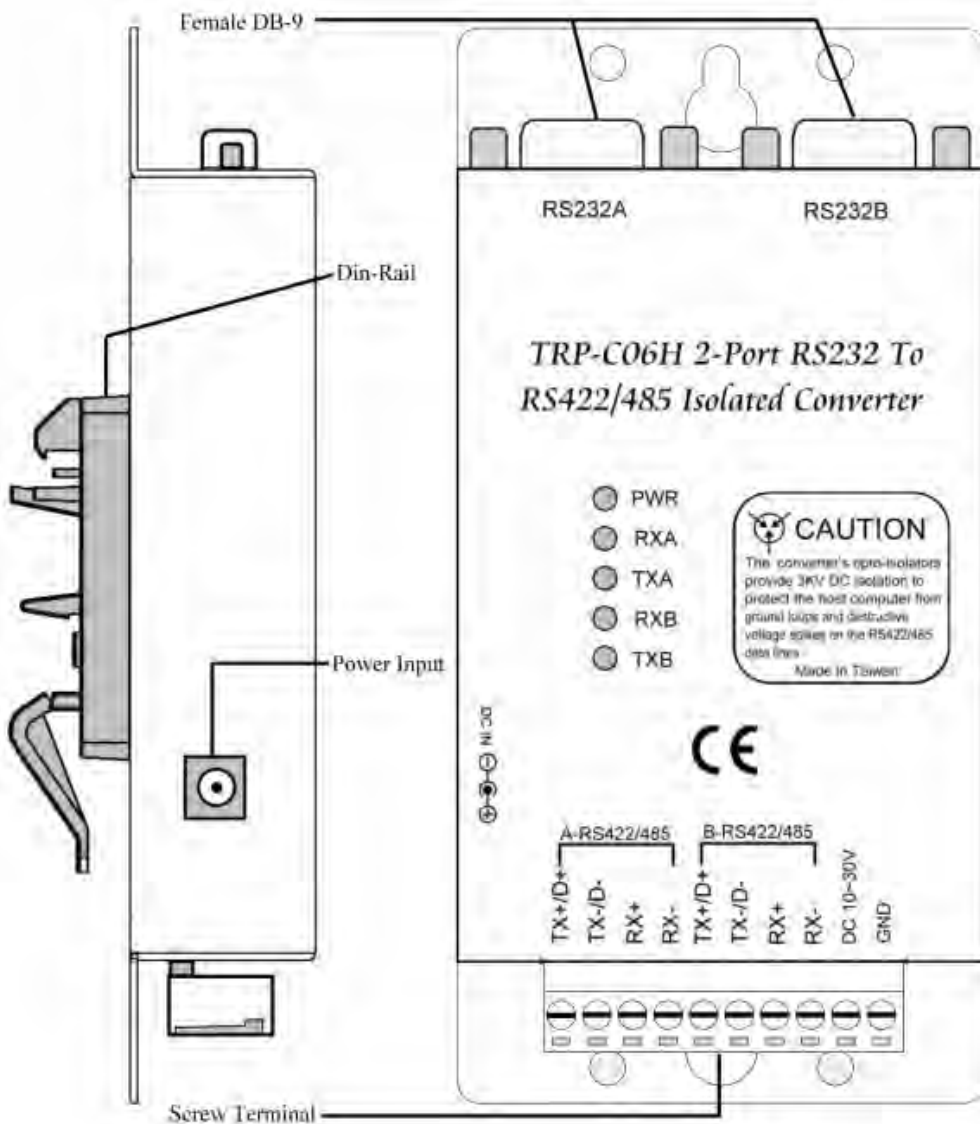
## 1-2. Specification.

- Power input voltage: DC +10V to +30V.
- Input:RS232 protocol.
- Output:RS422/RS485 protocol.
- Host connection: 2 standard D-Sub 9 pin female connector
- Electromagnetic Compatibility: CE
- Communication speed: form 1.2 to 115.2Kbps auto baud-rate.
- RS422/485 line protection: Against surge, short circuit, voltage peak.
- Distance: up to 4000ft (1250M ).
- Connection type: Screw terminal for maximum AWG 12 wire.
- Signal LED: Power on, TX-A, RX-A,TX-B,RX-B.
- Din-Rail mountable: Yes.
- Power supply: Screw terminal, or standard external DC adapter.
- Power consumption: 1.3W
- Isolation Voltage: 3000V DC.
- Operating environment: -20 to 65 °C .
- Storage temperature: -20 to 65 °C .
- Dimension: 151mm X 111mm X 26mm.
- Weight: 375g.
- Humidity: 10-90% non-condensing.

## 2. Hardware Description

The following information is provided to give the user an understanding of how to connect the TRP-C06H to the serial device. A review of the functionality of the LED's are also provided.

### 2-1. Panel layout



### 2-2. LED Indicator

**PWR LED:** System is ready.

**RXA LED:** RS232-A Receiving.

**TXA LED:** RS232-A Transmitting.

**RXB LED:** RS232-B Receiving.

**TXB LED:** RS232-B Transmitting.

### 2-3. Serial Connection

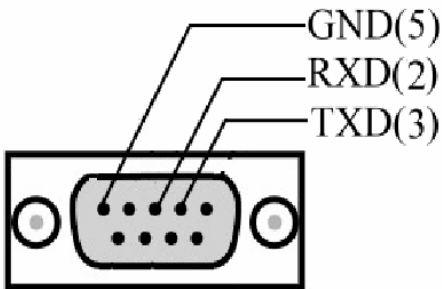
The TRP-C06H has two DB-9 female and two 4-wire RS422/485 connectors. The RS232 serial port is configured as a DTE (TXD,RXD,GND) device. All PC COM ports are DTE ports.

### 2-4. Power Connection

The TRP-C06H has a two pins terminal block and power jack. power can be supplied from either terminal block or the power jack. It accepts 10-30VDC/500mA power supply. When power is correctly supply the PWR LED will start lighting to indicate the system is up and running.

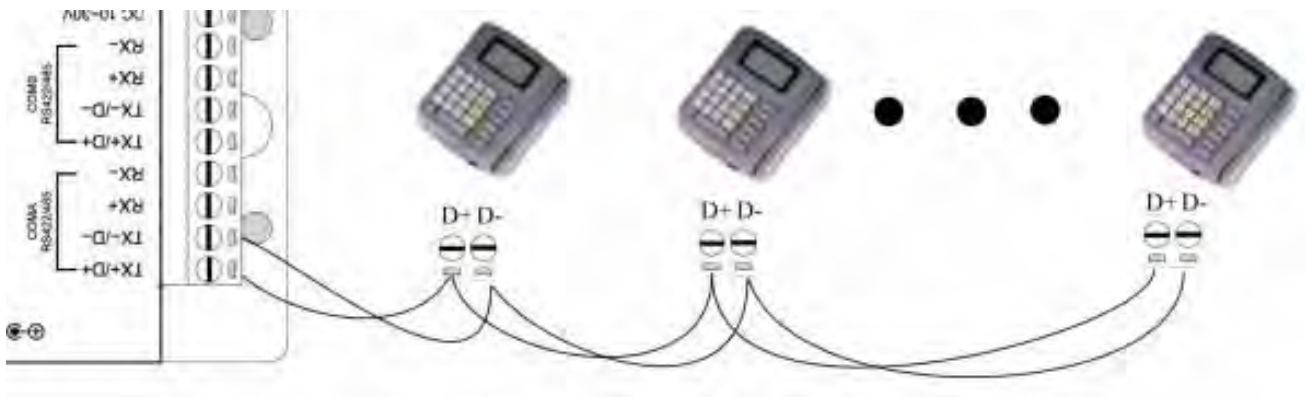
*\*Please use the power jack specification. (5.5\*2.1\*12 mm).*

### 2-5. RS232 Female Pin Configuration (COMA and COMB)



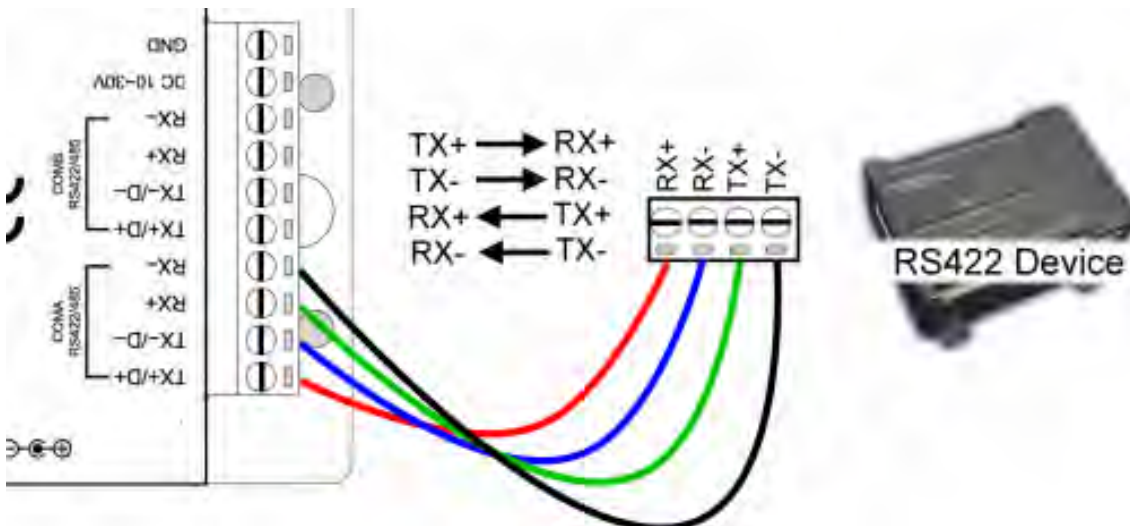
### 2-6. RS485 Wiring

The RS-485 mode supports the Transmit and Receive Channels using 2-wire half-duplex operation.

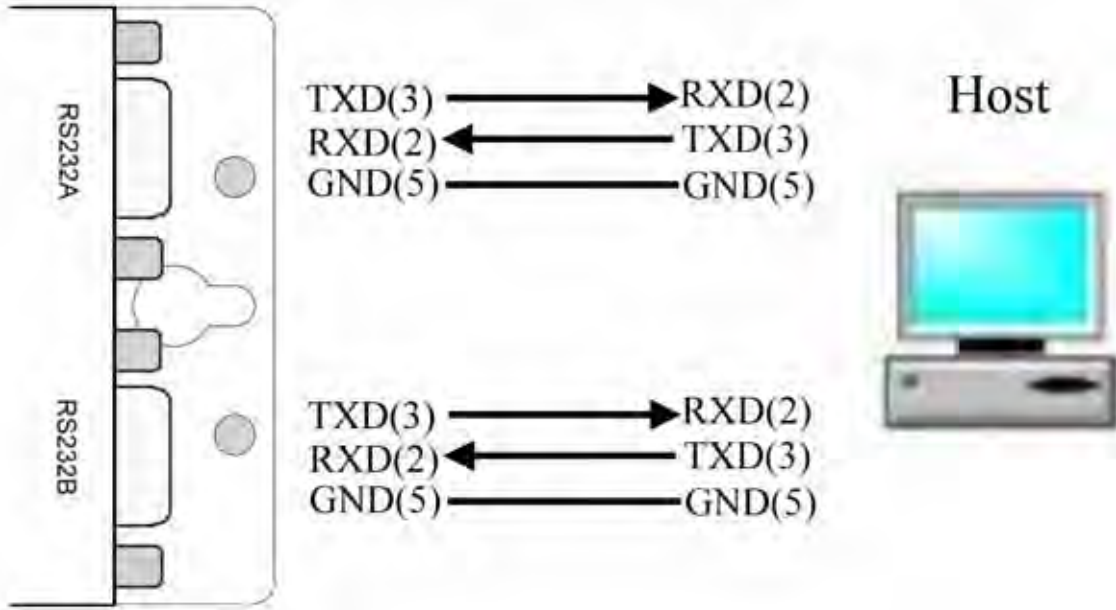


### 2-7. RS422 Wiring

The RS-422 mode supports 4 channels with full duplex operation for Receive, Transmit, The data lines are in differential pairs.



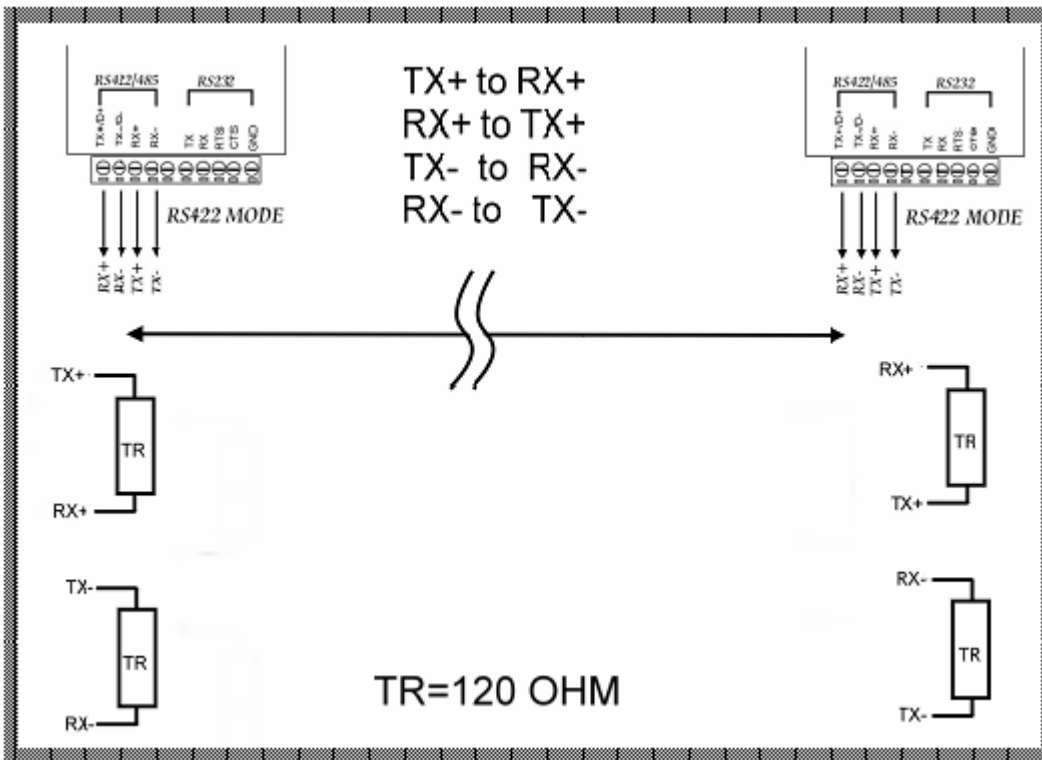
## 2-8. RS232 Wiring



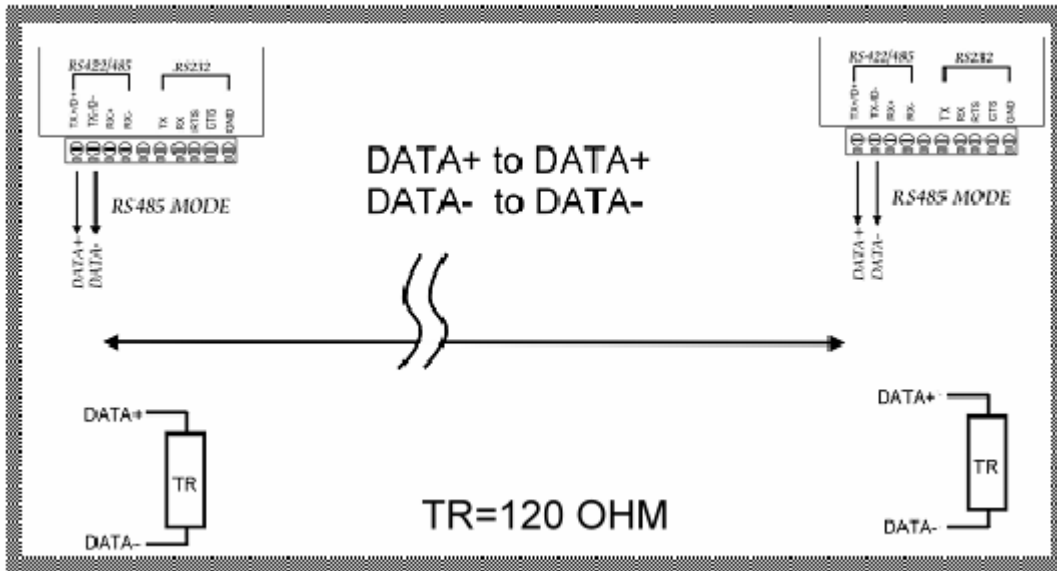
## 3. Terminal Resistor

TRP-C06H hardware is no terminal resistor built in, user may add external terminal resistor if require. The external terminal resistor connection as below.

### 3-1. RS422 terminal resistor connection



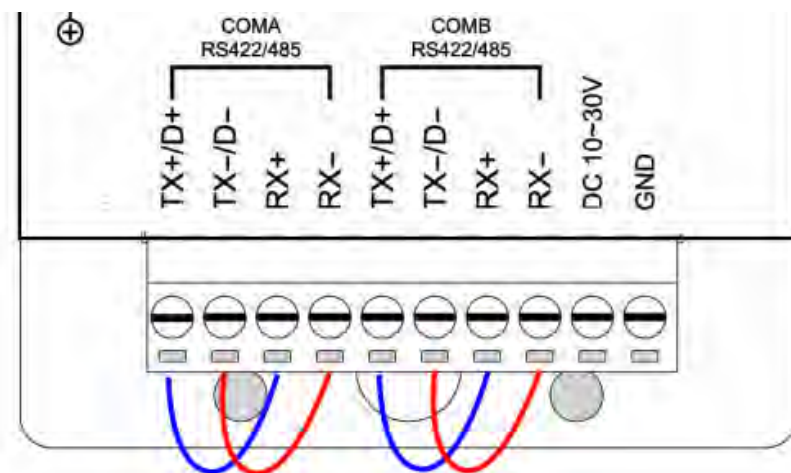
### 3-2. RS485 terminal resistor connection



## 4. How to test TRP-C06H

### 4-1. RS422 Loop Back Test

Hardware wiring connection for RS422 loop test.



### 4-2. Loop Back Test Software

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

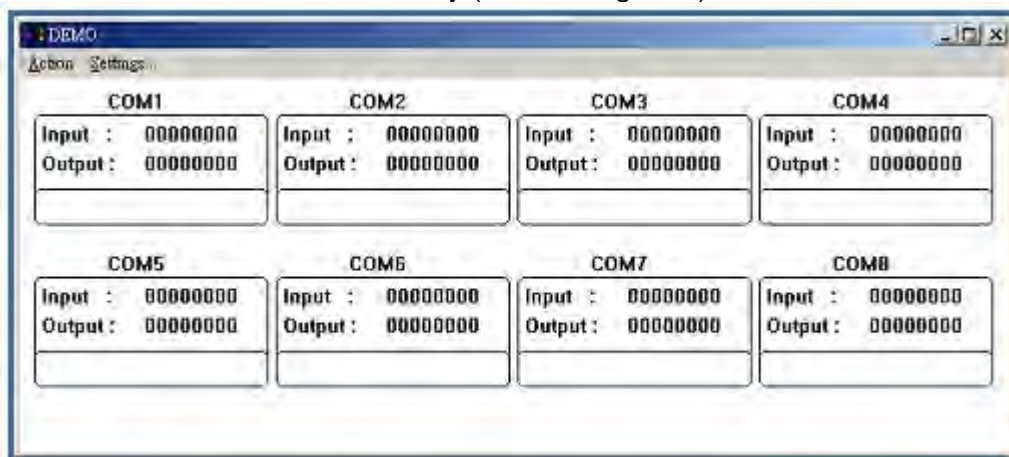


Fig.1

User may find "DEMO.EXE" test utility in TRP-C06H CD. Or download the utility from Trycom web [www.trycom.com.tw](http://www.trycom.com.tw).

**STEP2:** Click the "Setting" to set the RS422 loop counter (See the Figure 2); If your host computer is

COM3.

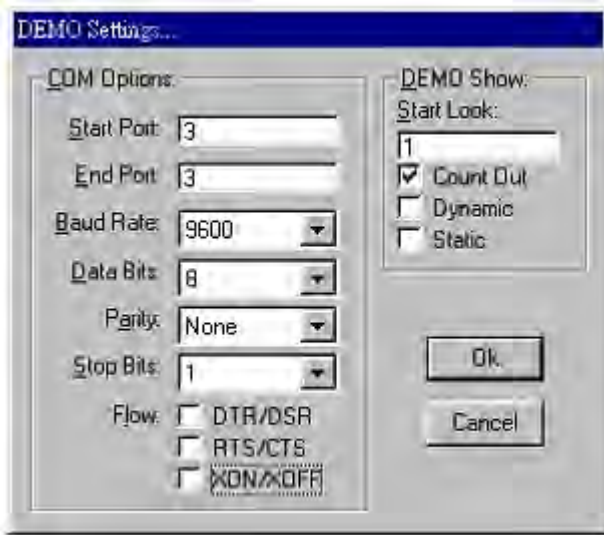


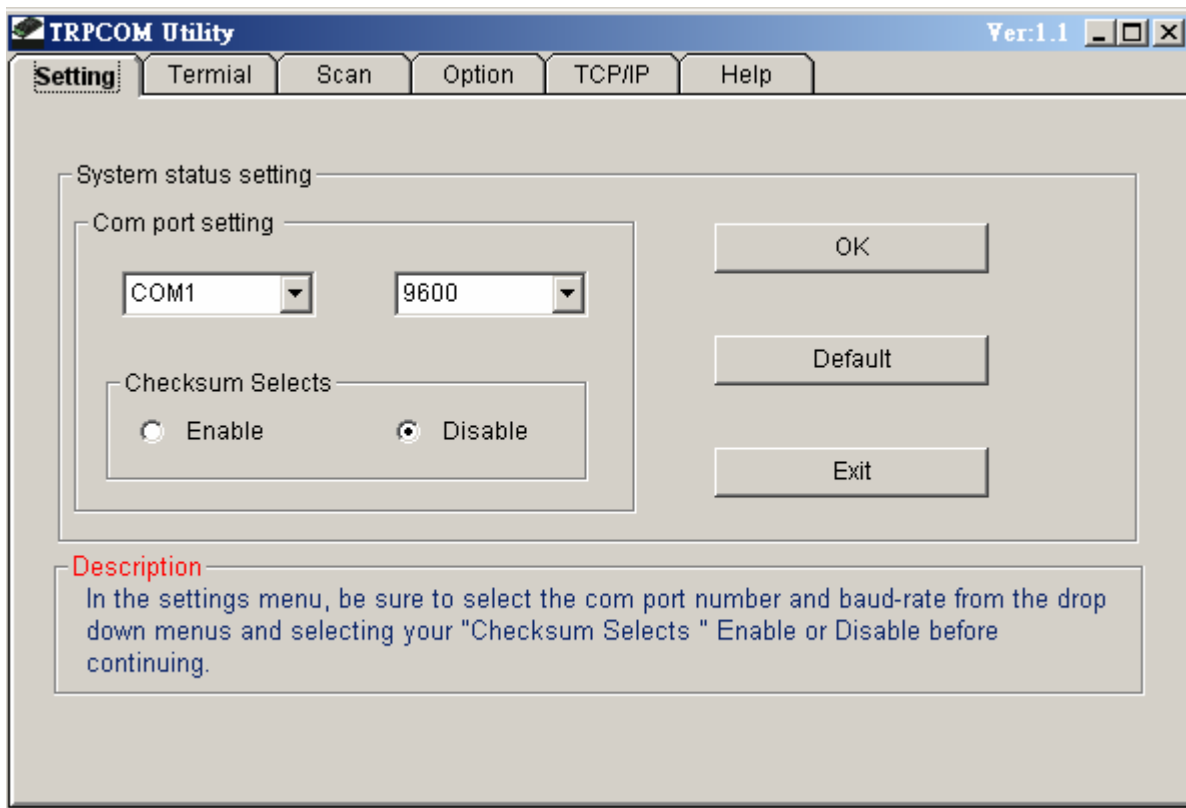
Fig.2

\*Please note: "COM3" is an example of COM port number; user may set the different COM port number after the installation.

**STEP3:** Click the "OK" the utility will show the input and output status of RS232.

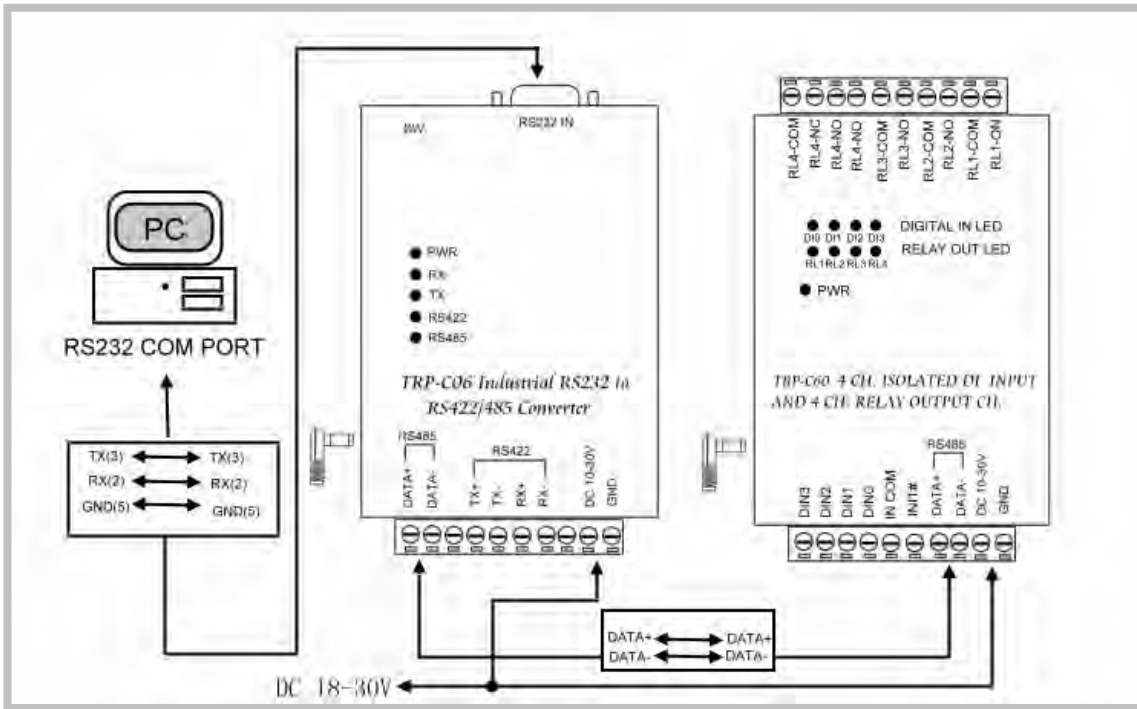
## 7. How to test RS485

**TRPCOM Test Utility** is RS485 communicate software which may help to test TRP-C06H and RS485 device connect .User may find the utility in the TRP-C06H support disk. Double click "Trycom Utility", the installShield Wizard will guide you complete installation.



### 7-1 RS485 Pin Wiring

User can directly link TRP-C06H to Trycom Remote IO Modules by RS485, The basic wiring connect.



\* User may find the DEMO utility in the TRP-C06H disk. Double click "DEMO.EXE"