

TRP-C07

User's Manual

RS-422/485 Isolated Repeater



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1. Introduction

TRP-C07 is designed to extend the RS-422 and RS-485 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 RS-485 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

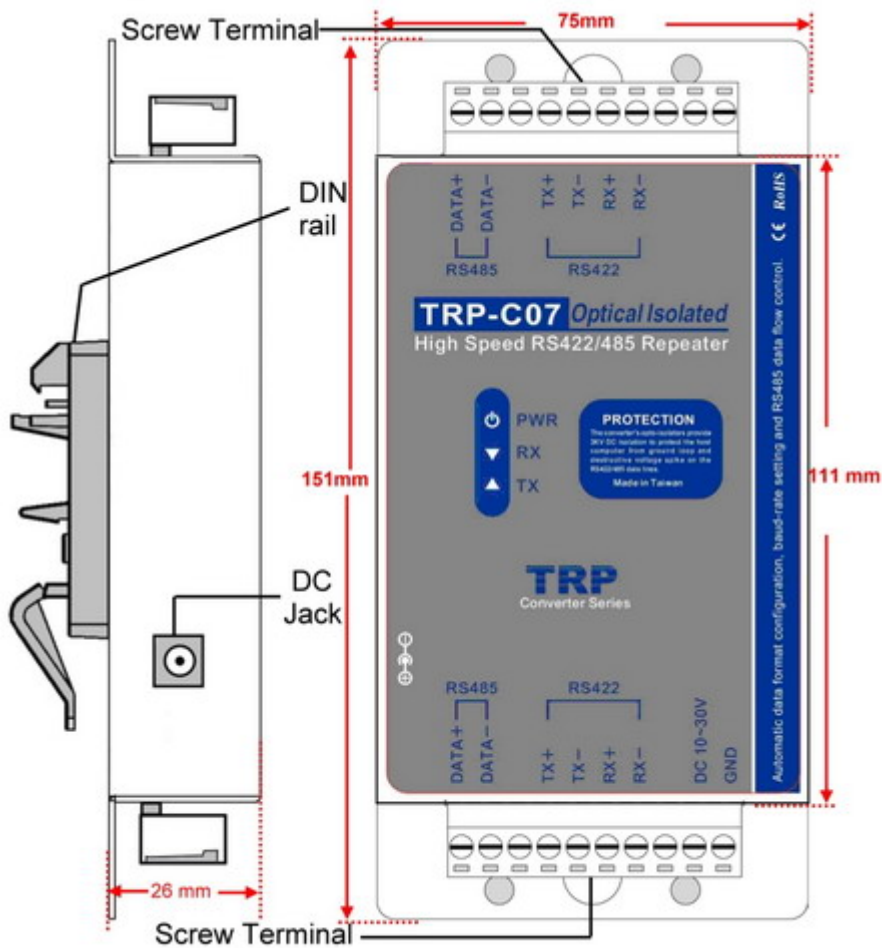
- Wide input range DC power supply.
- Automatic data format configuration.
- Auto direction flow control on RS-485.
- Auto baud rate switching from 300bps to 115.2Kbps.
- RS-485 bi-directionally communication.
- 3000 DC isolated protection.
- Surge protection on RS-422/485 data lines.
- Power/TX/RX mode LED indicator.
- Support screw terminal and external DC adapter.
- DIN rail or panel mount support.

1-2. Specification

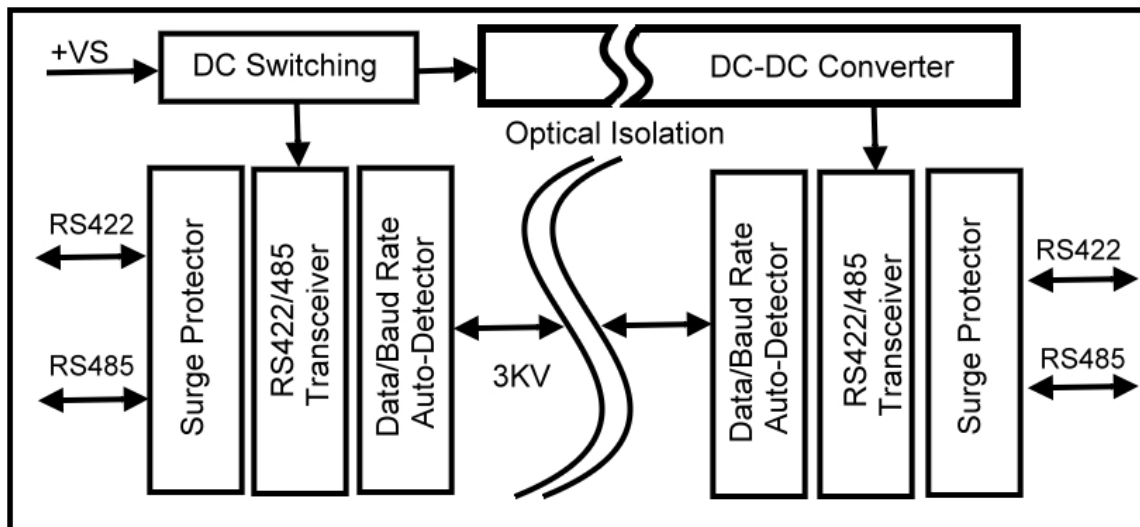
- Power input voltage: DC +10V to +30V.
- Power input type: Support screw terminal or external DC adaptor.
- Interface: Industrial plug-in screw terminal.
- RS-485 signal: differential 2 half-duplex wires. (D+,D-).
- RS-422 signal: differential 4 full-duplex wires. (TX+,RX+,TX-,RX-).
- Plug-in screw terminal wiring: Accepts AWG -#12~30 wire.
- Distance: extend RS-422/485 signal up to 4000ft. (1200M).
- Isolation voltage: 3000V DC.
- LED indicator: Power, TX, and RX.
- Power consumption: 1.2 watt.
- Operating Temperature: 0 to 60°C .
- Storage Temperature: -20 to 70°C
- 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: RS-422/485 receiving.

TX LED: RS-422/485 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.

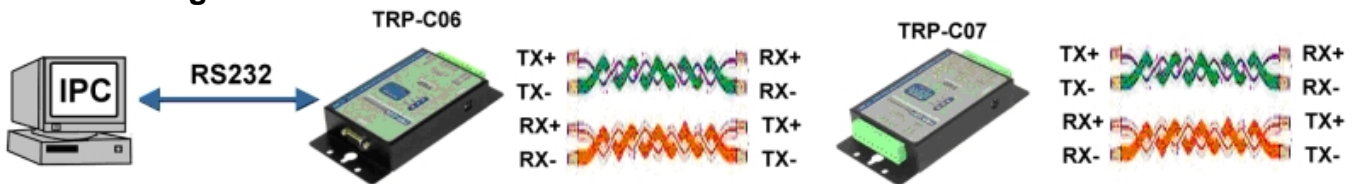
Warning: User can only choose one of following 2 power sources.

1. External DC adapter. 2. Screw terminal DC input

Do not use both power input simultaneously.

3-2. Connect TRP-C07 with RS-422 or RS-485 devices

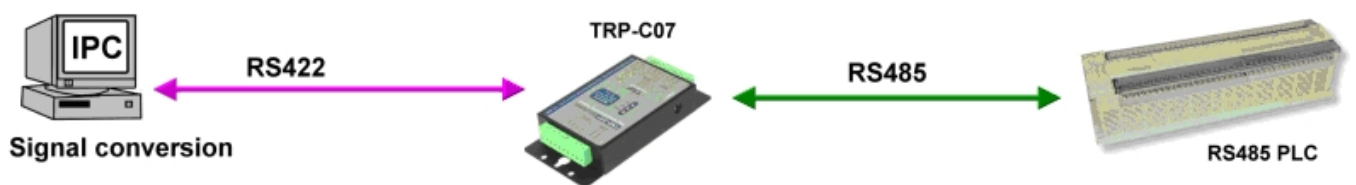
RS-422 wiring Connection .



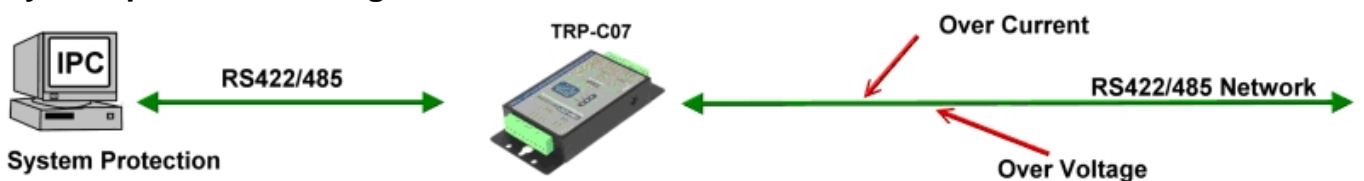
RS-485 wiring connection.



RS-422 to RS-485 conversion wiring connection.



System protection wiring connection.



**** TRP-C06: RS-232 to RS-422/485 Isolated Converter**

4. How to test TRP-C07

Trycom Technology Co., Ltd offers demo and test utility, these 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. The testing utility includes.

RS-422 test utility

Test422.exe for DOS

DEMO.exe for Windows

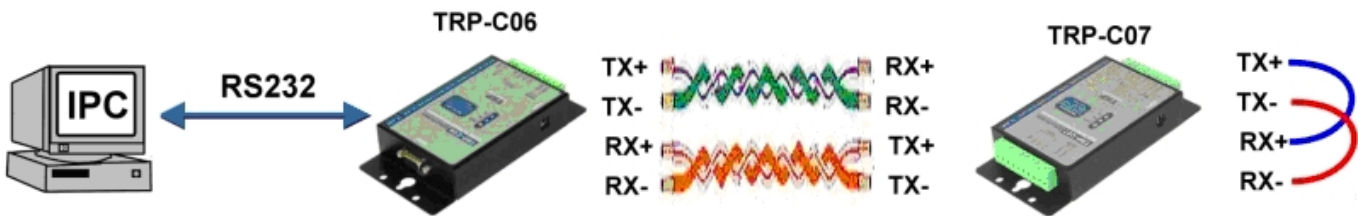
and RS-485 utility.

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).

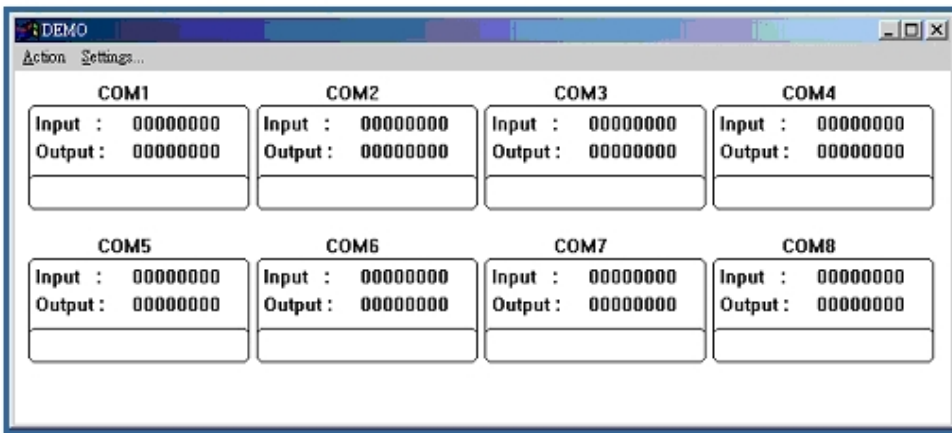


Fig.1

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

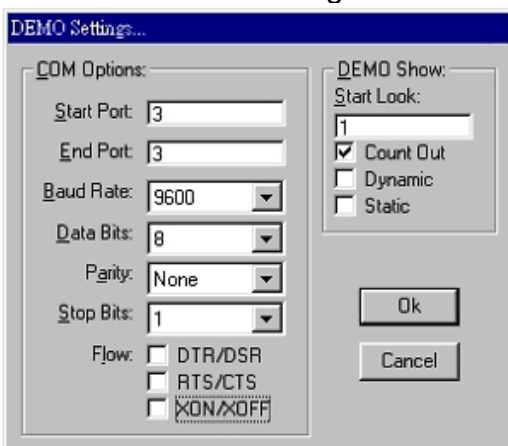
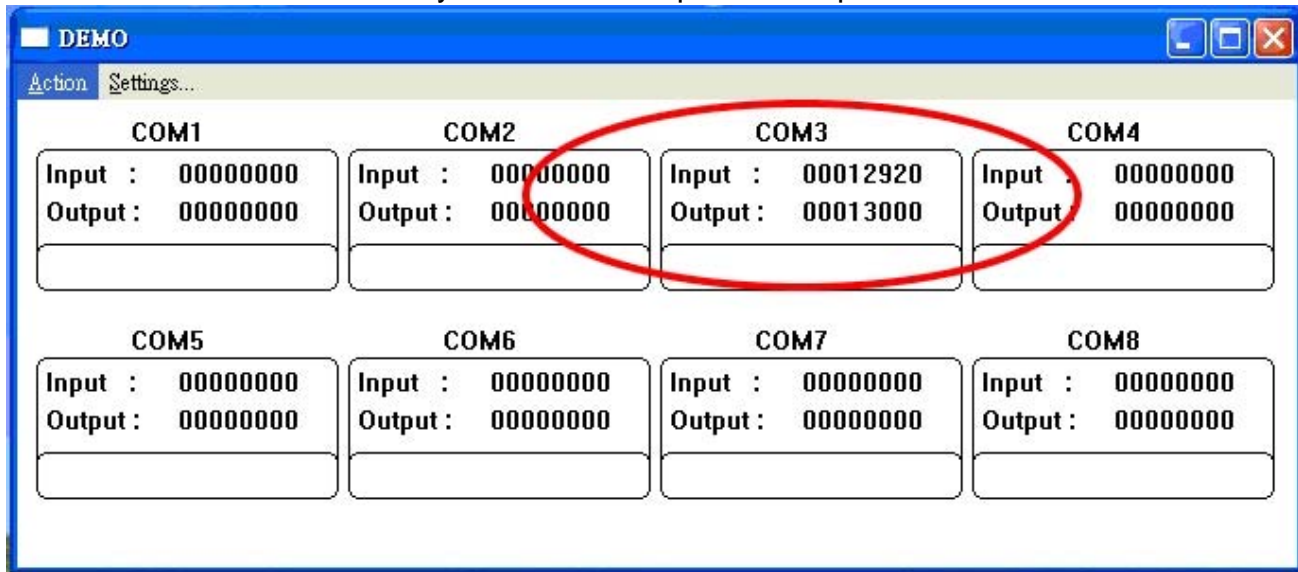


Fig.2

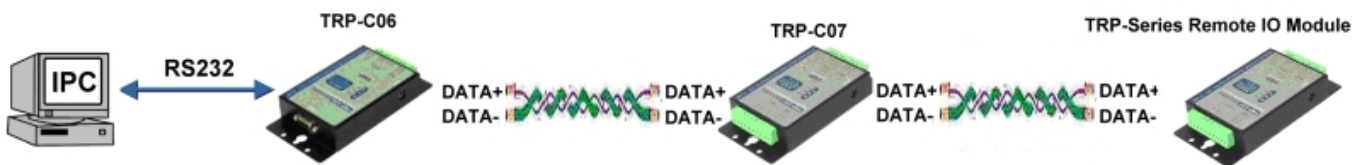
*Please note: "COM3" is an example of COM port number; the real COM number is assigned by your PC.

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



4-2. RS485 test

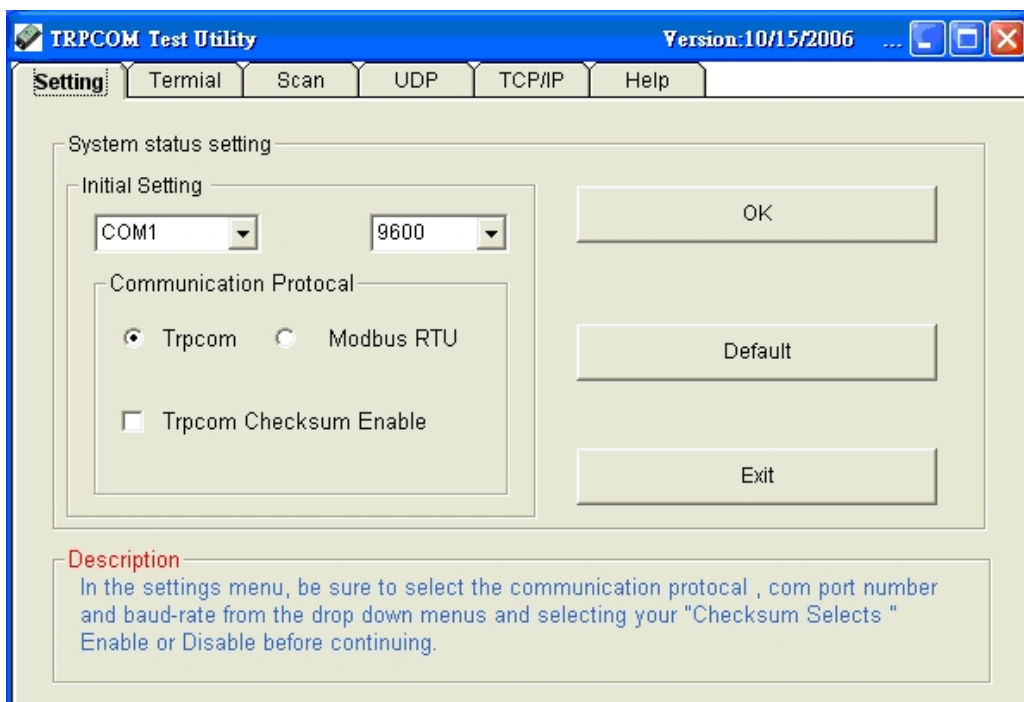
The wiring connection is as below.



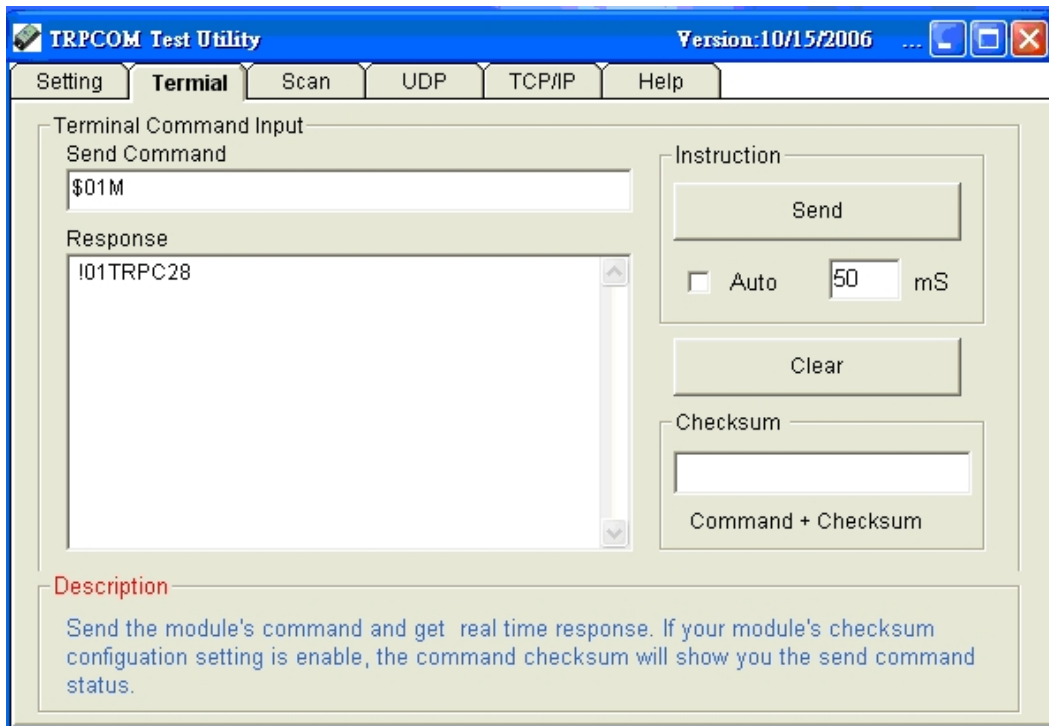
Step1. Install TRPCOM utility.

TRPCOM is a test utility which may help user to test TRP-C07 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.