

TRP-C06

RS232 to RS422/485 Isolated Converter



User's Manual

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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

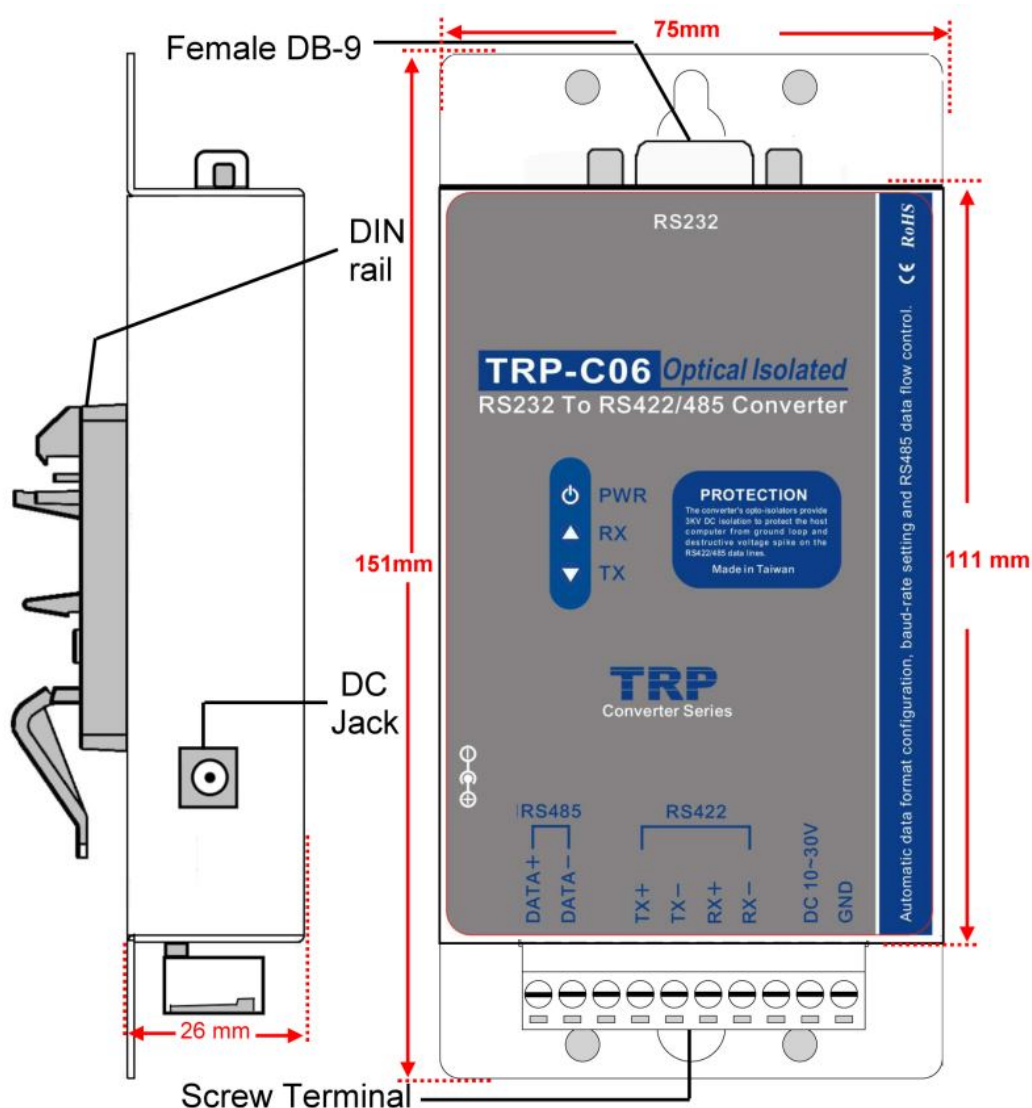
- Wide input range DC power supply.
- Automatic data format configuration.
- Auto direction flow control on RS485.
- Auto baud rate switching from 300bps to 115.2Kbps.
- 3000 VDC isolated protection.
- Surge protection on RS422/485 data lines.
- Power/TX/RX mode LED indicator.
- Support screw terminal and external DC power adaptor.
- Din rail or panel mounts support.

1-2. Specifications

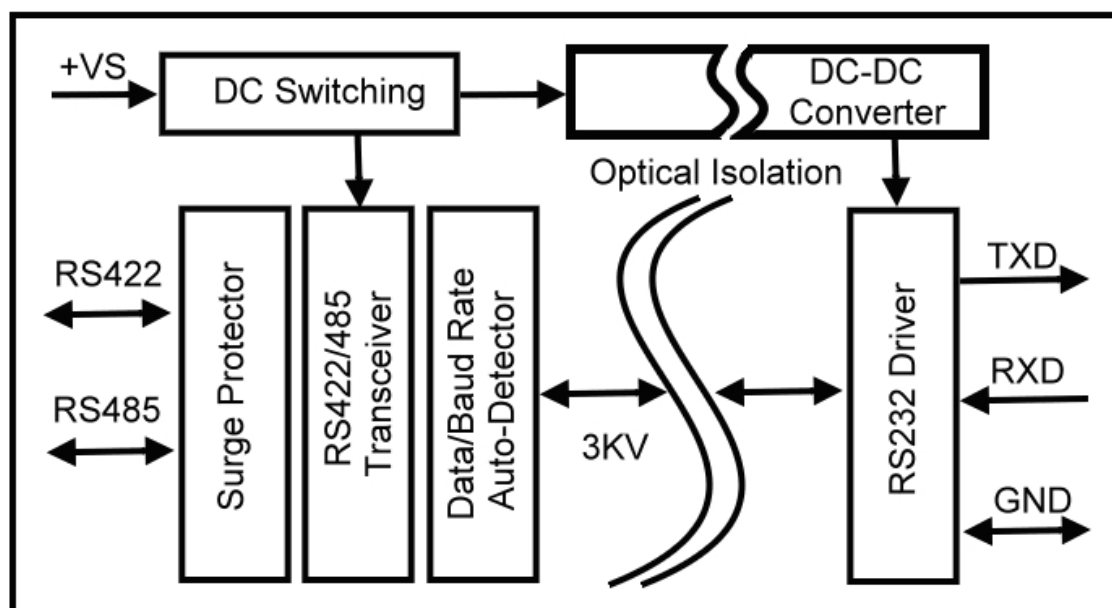
- Power input voltage: DC +10V to +30V.
- Host connection: Standard D-Sub 9 pin female connectors.
- RS232 interface: Standard D-Sub 9 pin female connector
- RS232 signal: TXD, RXD, GND.
- RS422/485 interface: Industrial plug-in screw terminal.
- RS485 signal: differential 2 half-duplex wires (DATA+, 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°C.
- Storage Temperature: -20 to 65°C
- 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 Indicator

PWR LED: System is ready.

RX LED: RS232 receiving.

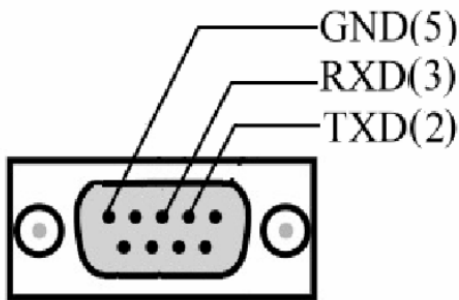
TX LED: RS232 transmitting.

3. Install TRP-C06

3-1. Power Connection

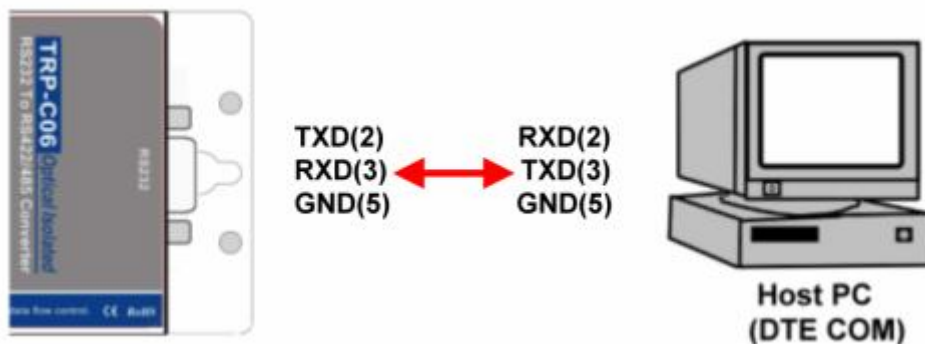
The TRP-C06 has a two pins terminal block and power jack. Power can be supplied from terminal block or external power adapter and supports wide input range from + 10~30V. When power is correctly supplied the PWR LED will lighting and indicates the system is up. It is highly recommended use the power jack specification 5.5*2.1*12mm, if the power supply is from external DC plug.

3-2. RS232 Female Pin Configuration for TRP-C06



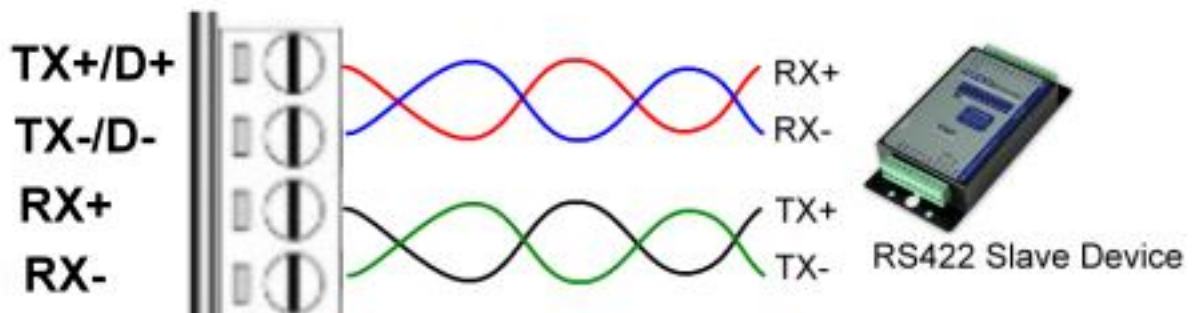
Notice: Due to the Hardware flow control problem will connecting some device just like PLC and it will caused TRP-C06 can't work, please take TRP-C06 's DB-9 PIN side (PIN 1,4,6 SHORT and 7,8 SHORT,

3-3. RS232 wiring connection



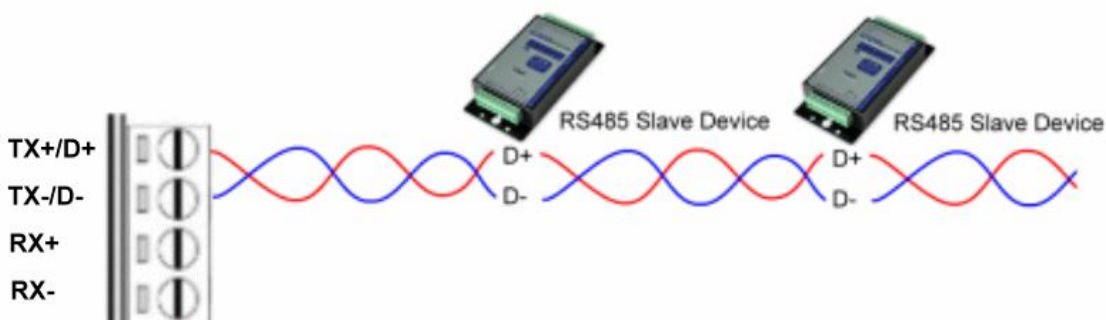
3-4. RS422 wiring connection

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.

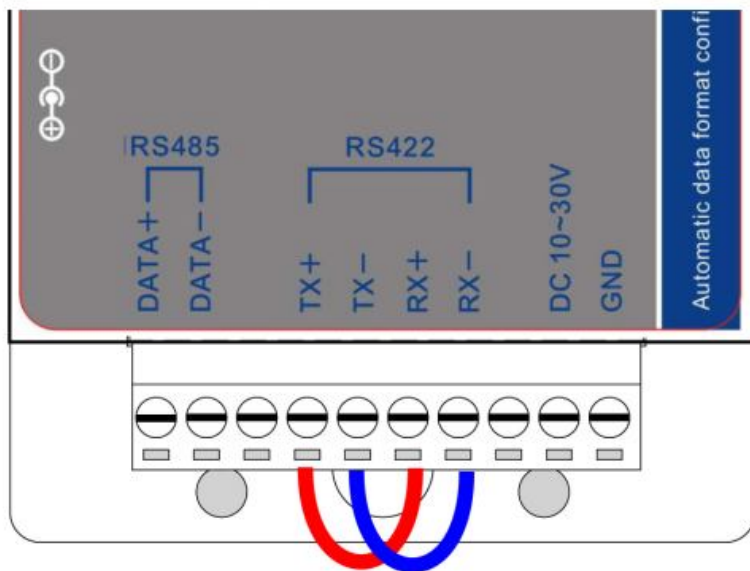


4. How to test TRP-C06

Trycom Technology Co.,Ltd offers test utility, this is 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 , direct to perform TRPCOM.exe from the directory.

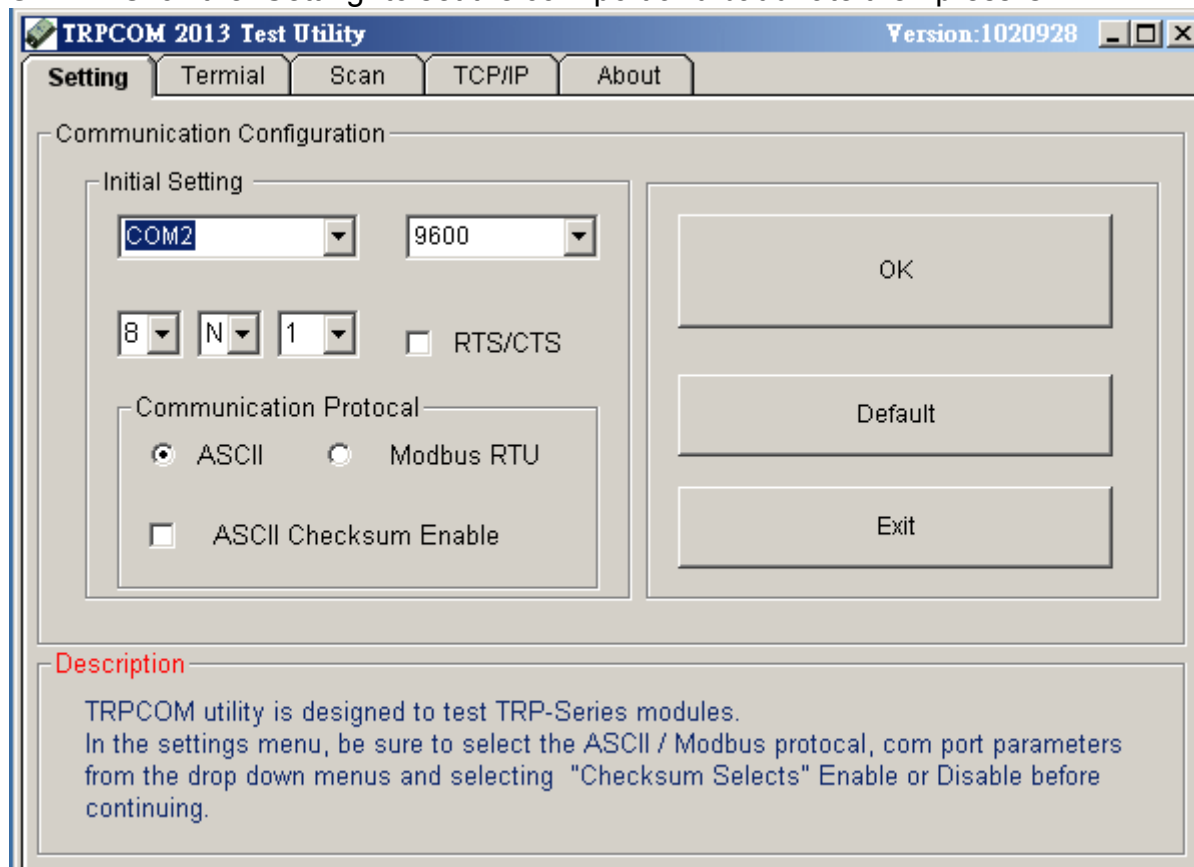
4-1. RS422 loop back test

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.

TRPCOM Test Utility Version:2013 Q3

Setting **Terminal** Scan TCP/IP About

Terminal Command Input

Send Command

Response

Instruction

☐ Auto mS

Checksum

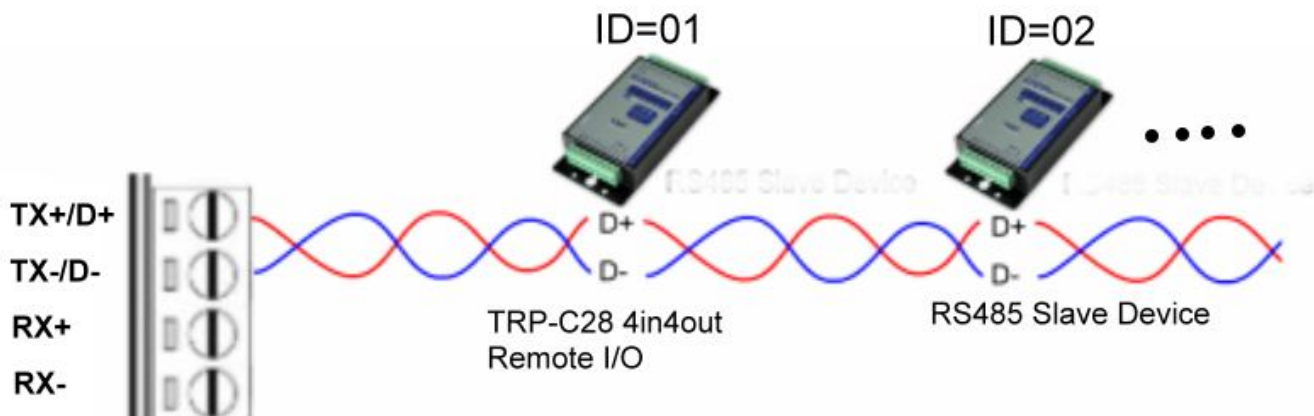
 Command + Checksum

Loop Back Test
☒ Enable
 Counter PASS

Description
 The Terminal Function:
 1.Test RS485:Send the command and get RS485 device response.
 2.Test RS232/422:RS232(with hardware control) or RS422 loop back wiring.

4-2. RS485 test

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.

TRPCOM Test Utility Version:2013 Q3

Setting Terminal Scan TCP/IP About

Communication Configuration

Initial Setting

COM2 9600

8 N 1 ☐ RTS/CTS

Communication Protocol

☒ ASCII ☐ Modbus RTU

☐ ASCII Checksum Enable

OK

Default

Exit

Description

TRPCOM utility is designed to test TRP-Series modules.
In the settings menu, be sure to select the ASCII / Modbus protocol, com port parameters from the drop down menus and selecting your "Checksum Selects" Enable or Disable before continuing.

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

Step4. TRP-C28 response received.

TRPCOM Test Utility Version:2013 Q3

Setting **Terminal** Scan TCP/IP About

Terminal Command Input

Send Command

\$01M

Response

!01TRPC28

Instruction

Send

☐ Auto 80 mS

Clear

Checksum

Command + Checksum

Loop Back Test

☐ Enable Counter PASS

Description

The Terminal Function:

- 1.Test RS485:Send the command and get RS485 device response.
- 2.Test RS232/422:RS232(with hardware control) or RS422 loop back wiring.

5. TRP-C06 Application.

