

TRP-C08

User's Manual

USB To RS232/422/485 Optical Isolated Converter



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1. Introduction

The TRP-C08 allows you to connect your serial devices to systems by using a USB interface. With data format auto detecting and baud rate auto switching function TRP-C08 is able to automatically detect the data flow and switch the direction of the data lines as well as to automatically configure RS422/485 signals to any baud rate without external switch setting. Equipped with 3000VDC of isolation and internal surge-protection on each data line, TRP-C08 give the host computer and module itself entirely protection from destructive voltage spikes and danger of unregulated voltages input. TRP-C08 also features a high-speed 115.2 Kb/s transmission rate, and supports various O.S. The industry standard DIN rail design enables fast and professional installation.

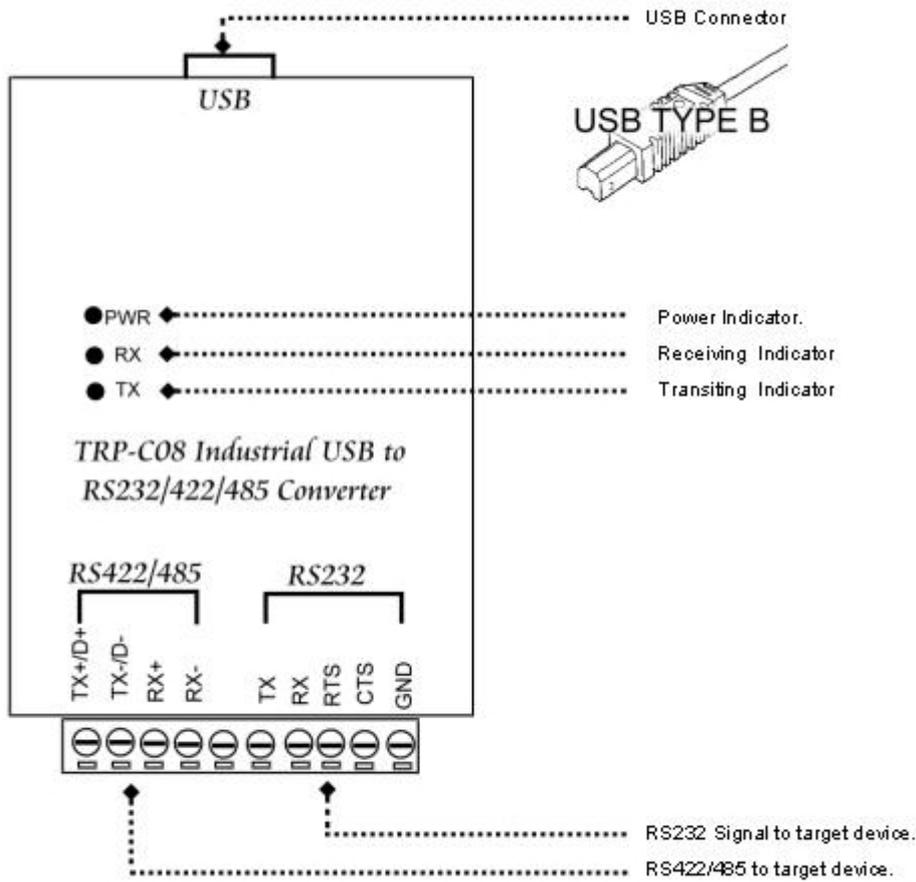
1-1. Features

- Full compliance with the USB V1.1 and 2.0.
- System gets one standard RS232 port when the TRP-C08 converter plug in.
- 256 bytes buffer for upstream and downstream data flow.
- Auto direction flow control on RS-485.
- Automatically switch signal RS232/RS422 and RS485.
- Support 3000V DC isolation protection.
- All RS422/485 signals provide surge protection and over current protection.
- Power/TX/RX mode LED indicator.
- Direct power from USB port, no need external power supply.
- Driver support: Windows 98/ME/2000/XP/CE3.0, and Linux, and Mac OS.

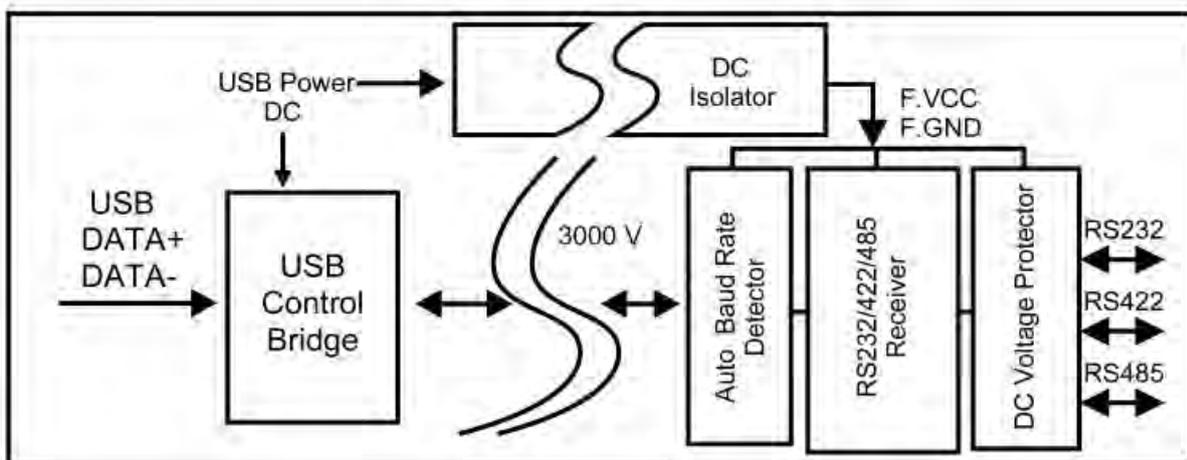
1-2. Specification.

- Power input voltage: DC +10V to +30V.
- Input: USB 1.1 or 2.0 protocol.
- Output: RS232 signal: Standard 5 full-duplex (TXD,RXD,CTS,RTS,GND).
RS422 signal: Differential 4 full-duplex wires.
RS485 signal: Differential 2 half-duplex wires.
- Cable: USB type A to type B.
- Electromagnetic Compatibility: CE.
- Format: Asynchronous data with any combination of bits, parity, stop
Parity type: None, odd, even mark, space.
Stop bits: 1, 1.5, 2.
Data bit: 5, 6, 7, 8.
- Communication speed: form 1.2K to 115.2Kbps auto-switching.
- RS422/485 line protection: Against surge, short circuit, and voltage peak.
- Distance: Up to 4000ft (1250M).
- Connection type: Screw terminal for maximum AWG 12 wire.
- Signal LED: Power on, TX, RX.
- Din-Rail mountable: Yes.
- Power Supply: Screw terminal, or standard external DC adapter.
- Power consumption: 1.2W.
- 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. TRP-C08 panel layout

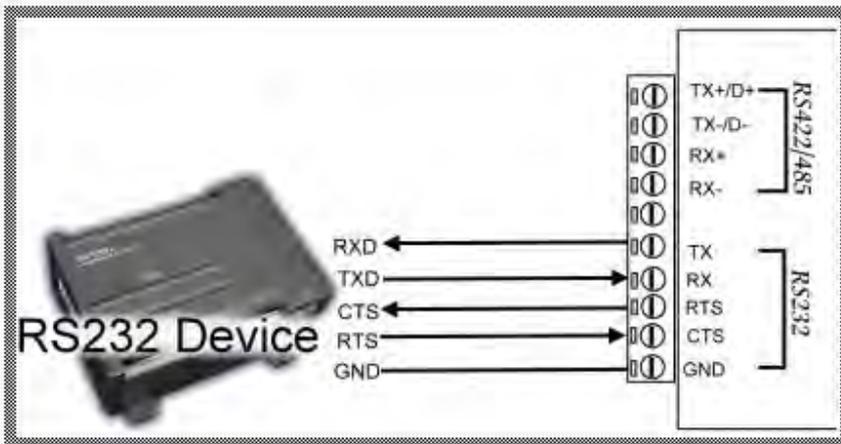


3. TRP-C08 Hardware structure

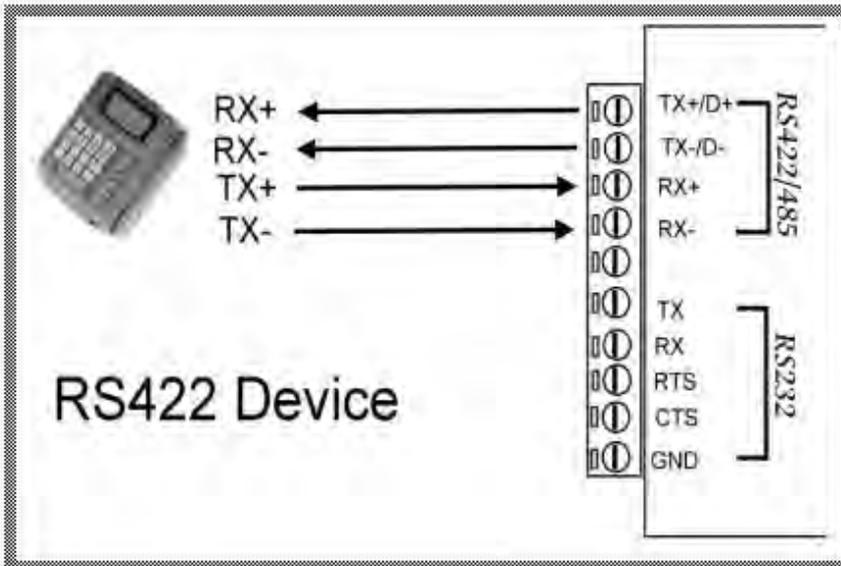


4. RS232/422/485 Connection.

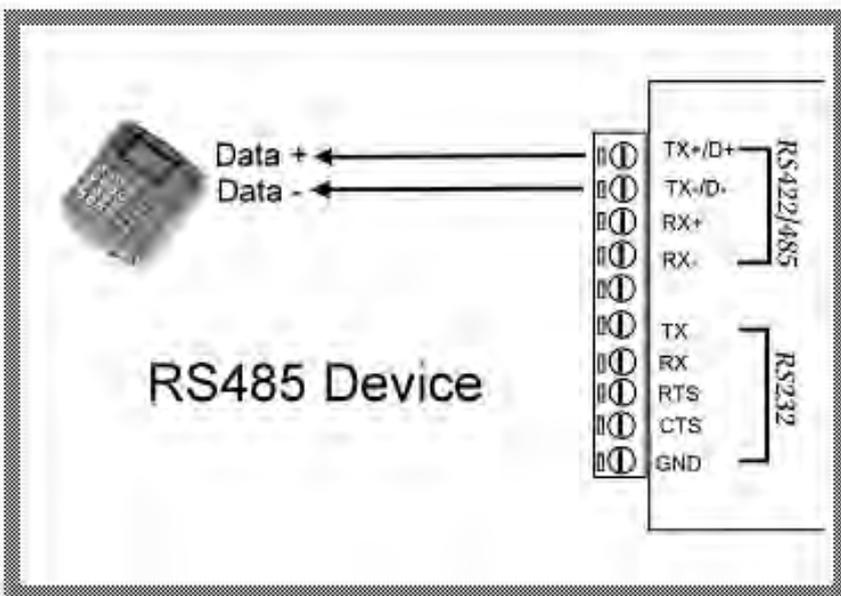
4-1. TRP-C08 to RS232 wiring connection



4-2. TRP-C08 to RS422 wiring connection



4-3. TRP-C08 to RS485 wiring connection



5. TRP-C08 Installation.

1. Power on your computer and boot to Windows.
2. Put the driver CD in the CD-ROM then run the PL-2303 driver (Figure1, 2)

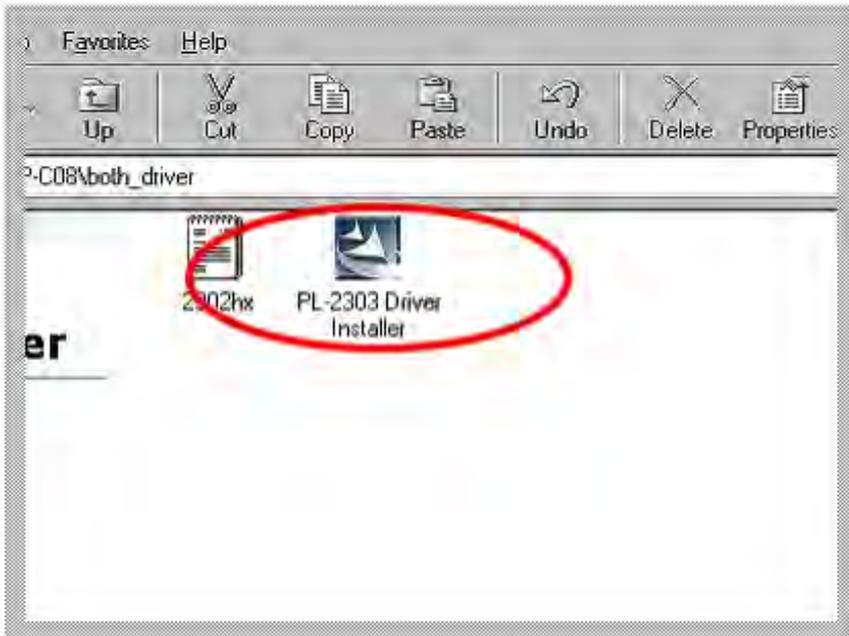


Fig.1

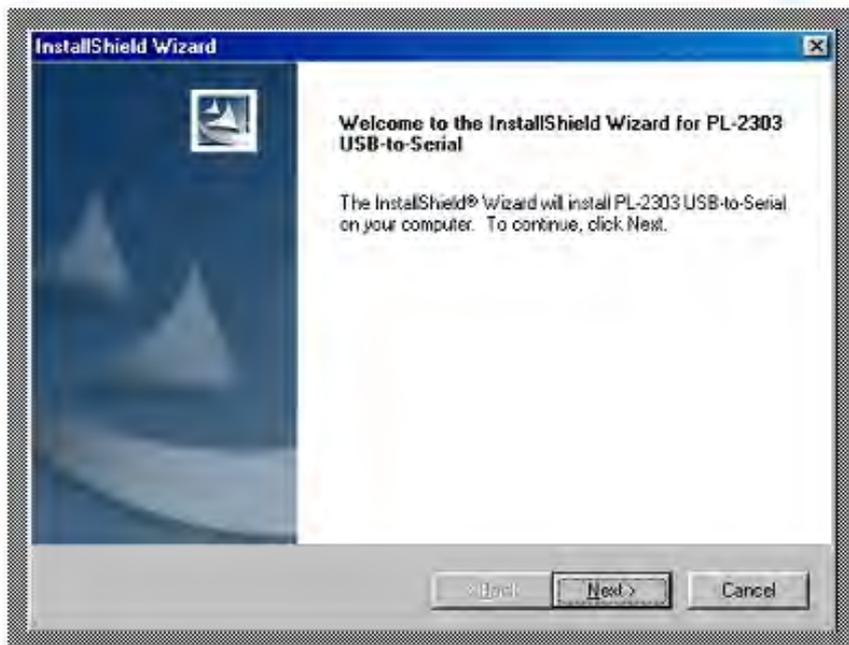


Fig.2

3. Connect TRP-C08 with your computer by USB cable.
4. Window will auto detect a " new USB devices" and start InstallShield Wizard.
5. After driver installation, please follow the bellowing process to verify whether the device was properly installed. Click Start – Setting -- Control panel -- double click system icon – Hardware Device Manager -- Double click on ports (COM&LPT) (see Figure 3)

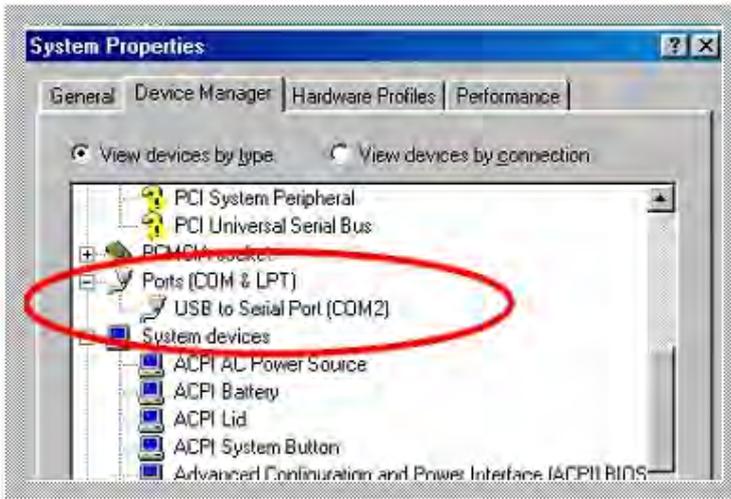


Fig.3

6. If the device was correctly installed you may see new COM device listing. This means Windows has assigned the device to the COMN port.

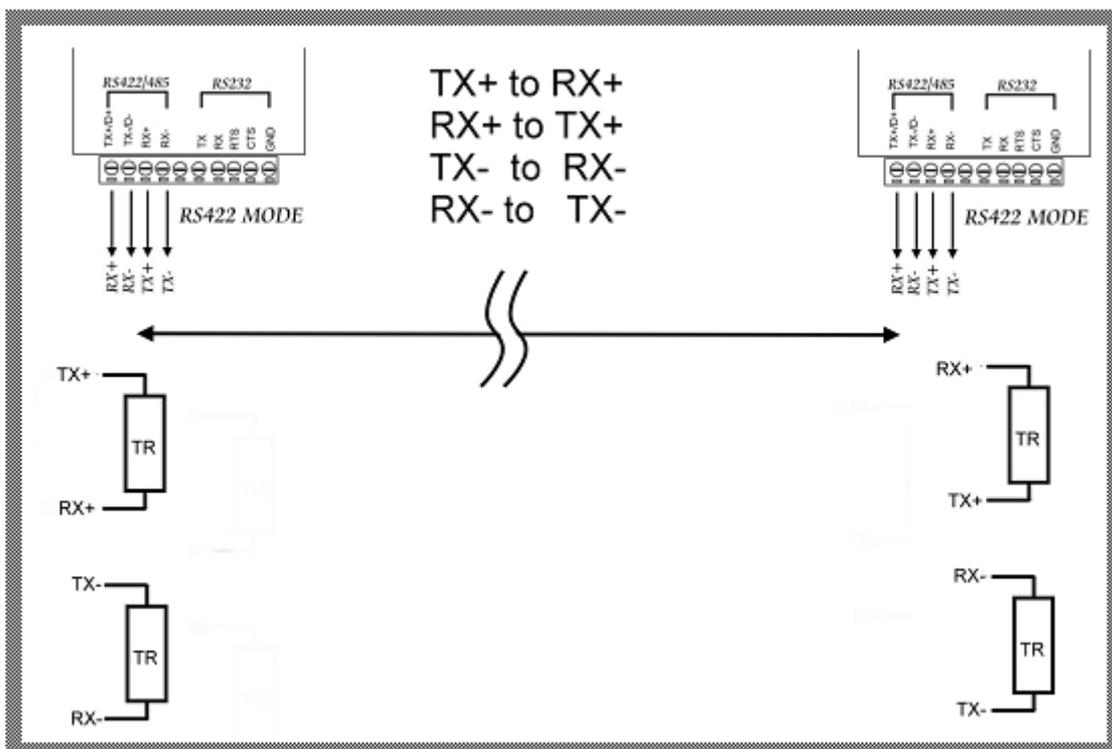
Remark:

PL-2303 is latest version TRP-C08 driver, if your system had already been installed old TRP-C08 driver, you must completely remove it from your system before this new driver installation. To assure to entirely cleanup old TRP-C08 driver, please use TRP-C08 driver uninstall program, which include in TRP-C08 CD (\driver\Windows/DREMOVE.exe). Do not use Windows control panel add/remove program,

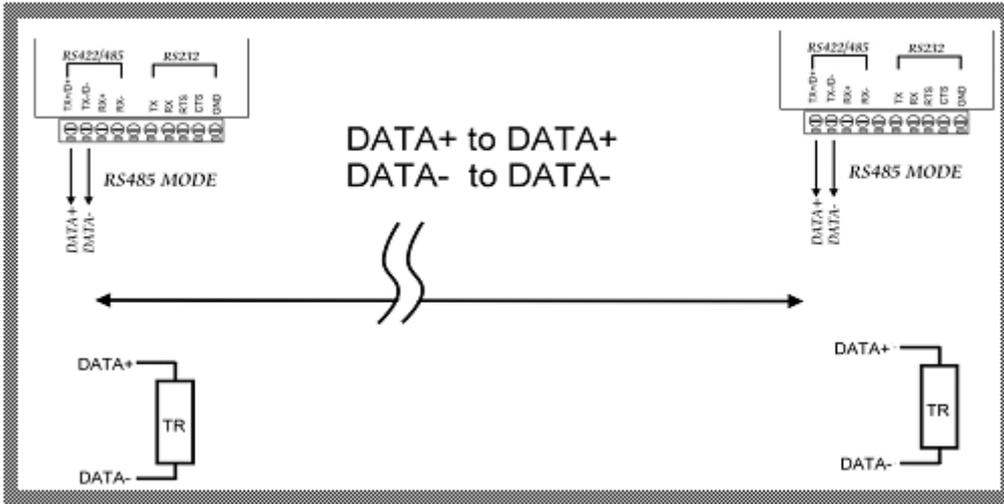
6. Terminal Resister.

TRP-C08 hardware is no terminal resistor built in, user may add external terminal resistor if require. The external terminal resistor connection as below.

6-1. RS422 terminal resistor connection



6-2. RS485 terminal resistor connection

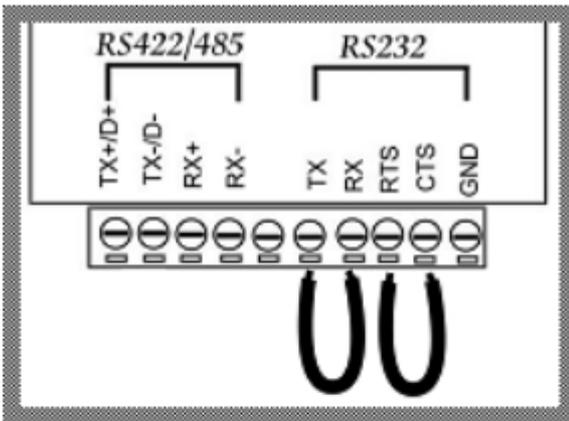


6-3. Terminal Resistor Specification

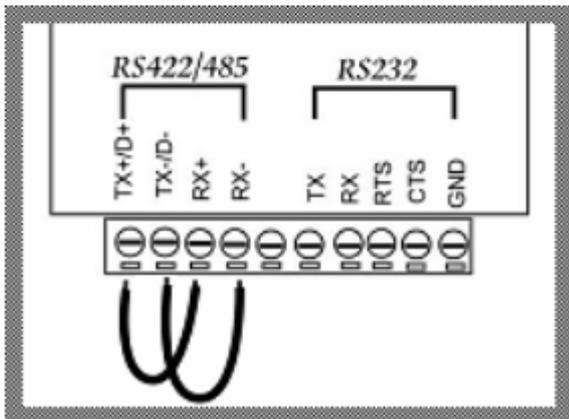
- 110 ohm: If distance between both end of RS422/485 devices in 1.2KM. .
- 220 ohm: If distance between both end of RS422/485 devices in 600M. .
- 330 ohm: If distance between both end of RS422/485 devices in 300M. .

7. How to test TRP-C08

1. Hardware wiring connection for RS422 or RS232 (See the Figure 4).



RS232 loop test wiring connection



RS422 loop test wiring connection

Fig.4

2. Run the "DEMO.EXE" utility (See the Figure 5).

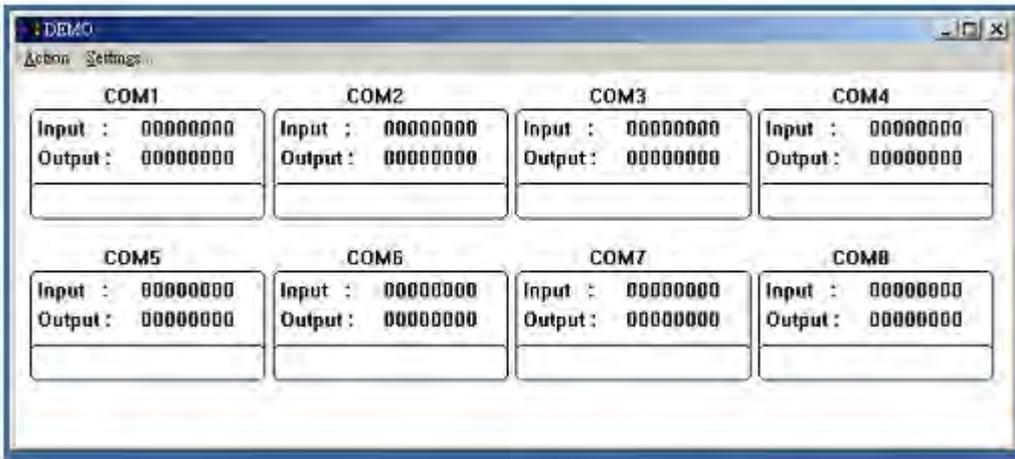


Fig.5

User may find “DEMO.EXE” test utility in TRP-C08 CD.

3. Click the “Setting” to set the RS422 loop counter (See the Figure 6); your system will detect the COM3.



Fig.6

4. Click the “Setting” to set the RS232 loop counter (See the Figure 7); your system will detect COM3.
Please note: “COM3” is an example of COM port number, user may get a different COM port number after the installation. The actual COM port number is assigned by Windows system.

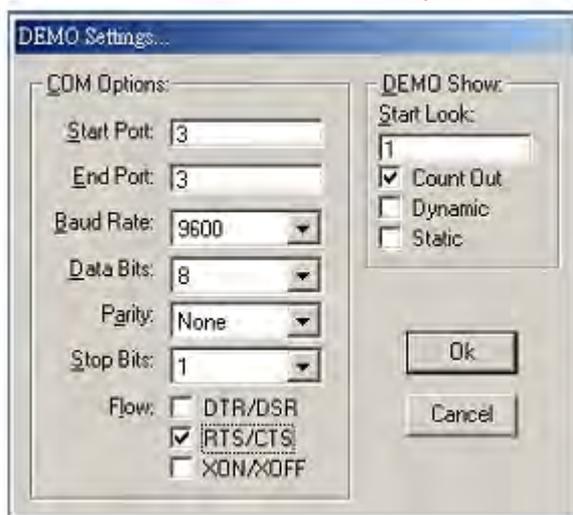


Fig.7

5. Click the “OK” the utility will show the input and output status of RS232.