Model:UT-794I
4 Ports Industrial Level Optical Isolation RS-485/422PCI E Multi-serial Port Card

I.Overview

UT-794I industrial level PCI-E conversion card, compatible with RS-422 and RS-485 standards, can convert the single-terminal PCI-E signals into balanced differentiating RS-422/RS-485 signals; it's internally installed optical isolation, with rapid transient voltage suppression protector which is designed for protecting the RS-422/ RS-485 port. The presently advanced TVS (TRANSIENT VOLTAGE SUPPRESSOR) is applied. The TVS tube is in high impedance state in normal conditions. When the two terminals of the TVS tube endures transient high energy impact, it can reduce the impedance at the two terminals in extremely high speed to absorb a heavy current so as to suppress the voltage at the two terminals at a preset value, thus avoiding damage to the rear circuit elements caused by transient high voltage. Such protector can effectively suppress Lighting (LIGHTNING) and ESD, provides 600W lighting stroke protection power for each line and the surge voltage and transient overvoltage on lines caused by different reasons and the extremely low interelectrode capacitance can ensure high speed transmission for RS-422/RS-485 port.

Ⅱ. Product Characteristics:

Hardware interface
Connection type: one DR44 female terminal
Profibus: X1 2.5Gbps PCI Express
Signals
RS-422: T/R+、T/R-、RXD+、RXD-、GND
RS-422: T/R+, T/R-, RXD+, RXD-, GND
RS-485: Data+(A) Data-(B) GND
RS-485: Data+(A) Data-(B) GND
Transmission rate: 300bps-921.6Kbps
Data bits: 5, 6, 7, 8
Stop bits: 1, 1.5, 2
Check bits: None, Even, odd, Space, Mark
Flow control: RTS/CTS XON/XOFF
Working temperature: -40℃~85℃
Optical isolation: isolation voltage 2500Vnms, DC/DC module dedicated for 500DC connection
Port protection: 600W surge protection for each line of RS-422 and RS-485 port, ±15K V electrostatic protection
Transmission distance: RS-485/422 communication distance reaches up to 1.2Km
Support systems: Win2000/XP/Vista/Win7/NT4.0/CE 4.2/5.0/6.0/ Vxworks/Linux 2.4.x/2.6.x

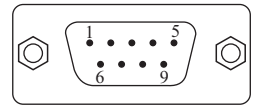
RS-422/485 interface rate reaches up to 921.6Kbps, supports 256byteFIFO drivers and built-in software and hardware flow control, with commonly used PCI-E interface.

III. Connector and Signals:

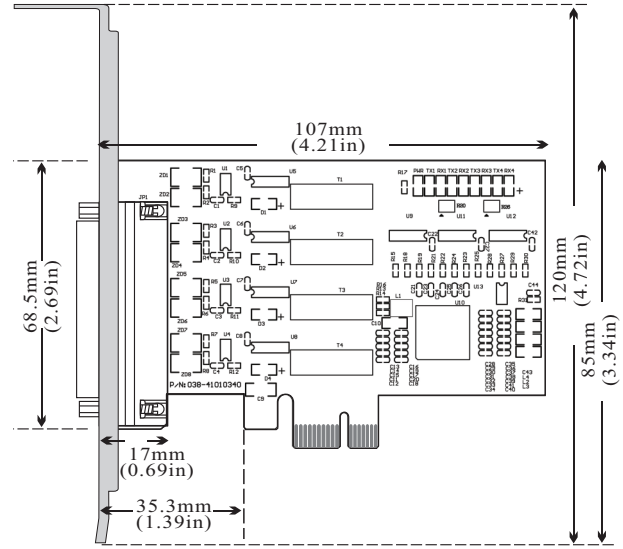
1.DB9 pin: RS-485/RS-422 output signals pin distribution (Port1-Port4)

DB9 pin type (PIN)	Output signal	RS-422 full duplex wiring	RS-485 half duplex wiring
1	T/R+	Send(A+)	RS-485 (A+)
2	T/R-	Send(B-)	RS-485 (B-)
3	RXD+	Receive(A+)	Empty
4	RXD-	Receive(B-)	Empty
5	GND	Ground wire	Ground wire
6	N/C		
7	N/C		
8	N/C		
9	N/C		

DB9 PIN

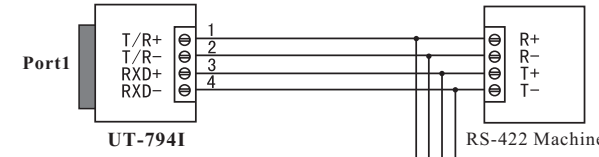


IV. Product Outline Drawing

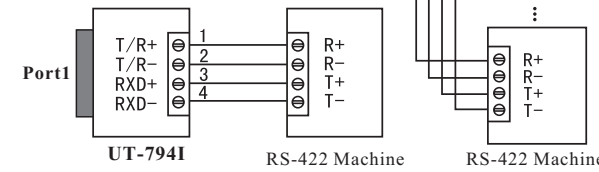


V. Connection Diagram

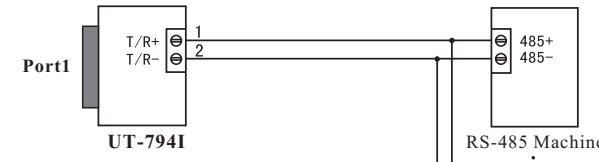
1. RS-422 point to point/four wires full duplex



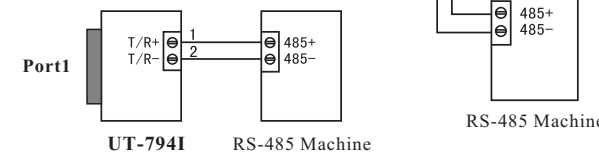
2. RS-422 point to multi point/four wire full duplex communication



3. RS-422 point to multi-point/two- wire half duplex



4. RS-422 point to point/two- wire half duplex

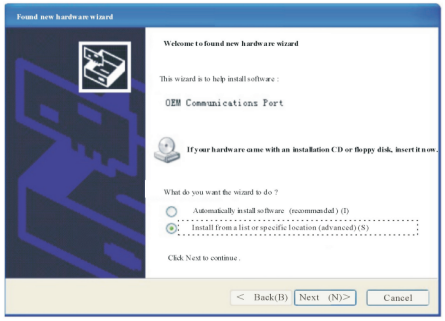


VI. Troubleshooting:

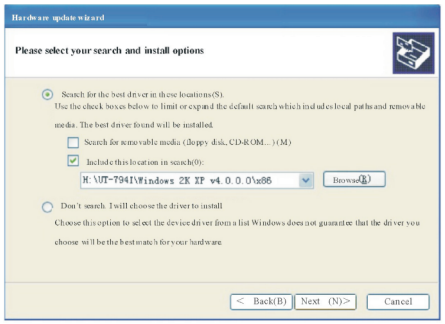
1. Data communication failure
   A. Check PCI-E port
   B. Check whether the wiring of RS-485/RS-422 output port is correct
   C. Check whether the power supply is normal and the power light is normally on
   D. Check whether the terminate blocks connect well
   E. Observe whether the receive indicator light flashes in receiving
   F. Observe whether the send indicator light flashes in sending
2. Data missing or fault
   Check whether the data rate and format is the same at the two terminals of data communication devices

VII. Install Driver Procedures

When plug UT-794I product, the system will automatically pop out the window as follows. Select [Install from a list or specific location advanced] and click [Next].

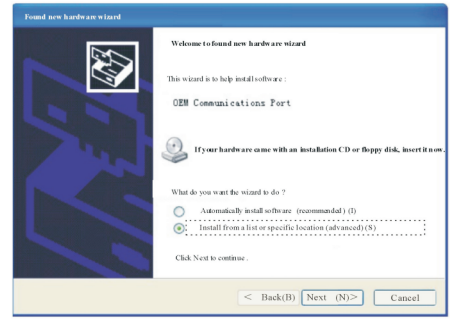


The system pop-up program selection path install window is as follows. Select [Search for the best driver in these locations], and select [Include this location in search], click [Browse] and select a folder in the optical disk. If your system is XP, click Win2KXP folder; if it is other system, then click corresponding folder and then click [Next].



Search and find that the driver file is installing.

Pop up the new hardware wizard dialog box again, and the remaining 3 serial port drives are required to be installed. Select [Install from a list or specific location advanced] and click [Next].



Install the remaining 3 serial port drives according to the above procedures and then it can be used afterwards.

Open device manager to check whether the virtual COM port exists in port column or not after installing the drive. If no other serial driver is installed in the system, the default COM port by the system is 3, 4, 5 and 6, as indicated below. Up till now, all the drivers have been installed for UT-794I.