

**Model:UT-724I**  
**4-port Industrial Optical Isolator**  
**RS-485/422 PCI Multiport Card**

**I. Summary**

UT-724I opto-isolated PCI converter card is compatible with RS-422 and RS-485 standards, and is able to convert PCI signals into balanced differential RS-422/RS-485 signals. The built-in opto-isolator provides isolation voltages up to 2500Vrms. It is also equipped with a high-speed transient voltage suppressing protector, which is designed to protect the RS-422/RS-485 interface. The state-of-the-art TVS, Transient Voltage Suppressor, is being used in the system. Under normal circumstances, the TVS tube remains in high-impedance status. When two ends of the TVS tube receive transient high energy impact, it reduces the impedance at both ends in an extremely rapid manner to absorb the huge amount of current. Furthermore, it suppresses voltages at both ends to a preprogrammed value to protect circuit components from damages caused by transient high voltage impacts. The protector can effectively suppress lightning and ESD. It also provides 600W of lightening surge protector power for every line, and protections against surge voltage and transient over voltage caused by any other factors. It also guarantees the high-speed transmission of RS-422/RS-485 interfaces with extremely small capacitance.

**II. Product Features:**

- Hardware interface
- Connection Type: DR44 female head x 1
- Bus: 32 bit Universal PCI
- Signal
- RS-422 T/R+ T/R- RXD+ RXD- GND
- RS-485 Data+(A) Data-(B) GND
- Transmission rate: 300bps-921.6Kbps
- Data bits: 5、 6、 7、 8
- Stop bit: 1、 1.5、 2
- Check bit: None Even odd Space Mark
- Flow control: RTS/CTS XON/XOFF
- Operating Temperature:-45℃ ~80℃
- opto-isolation: isolated voltage 2500Vrms 500DC constant dedicated DC/DC module
- Interface protection: 600W surge protection per line for RS-422, RS-485 interface, ±15K V static protection
- Transmission distance: RS-485/422 communication distance reaches up to 1.2Km
- Supporting system: Win2000/ 2003/ XP/ Vista/ 2003\_Server/ NT4.0/CE 4.2/5.0/ 6.0/Vxworks/Linux2.4.x/2.6.x

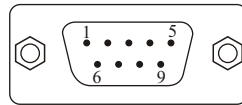
RS-422/485 interface rate reaches up to 921.6Kbps. It supports 64byte FIFO driver and built-in hardware flow control. All-purpose PCI is compatible PCI and PCI-X with 3.3/5V.

**III、 Connector and Signal:**

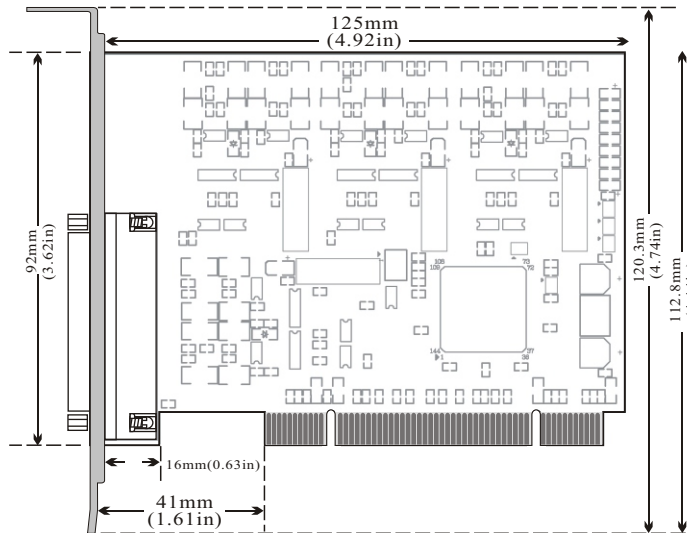
DB9 PIN: RS-485/RS-422 output signal pin distribution (Port1-Port4)

DB9 (PIN)	Output signal	RS-422 full-duplex wiring	RS-485 semi-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	Ground
6	N/C		
7	N/C		
8	N/C		
9	N/C		

DB9 PIN

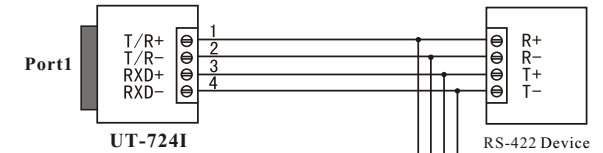


**IV、 Product Appearance**

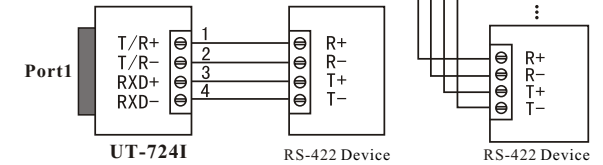


**V. Connection Illustration**

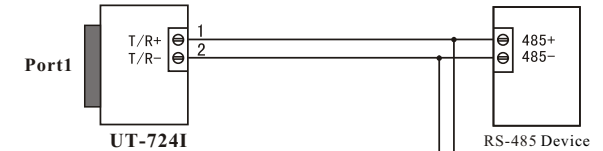
**1、 RS-422 single to multi-points, 4-wire full-duplex**



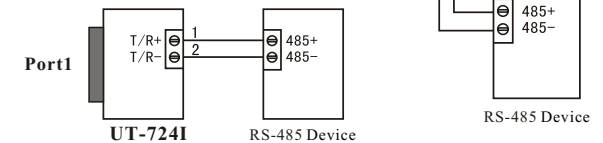
**2、 RS-422 point-to-point, 4-wire full-duplex communication**



**3、 RS-485 single to multi-points, 2-wire semi-duplex**



**4、 RS-485 point-to-point, 2-wire semi-duplex**



**VI、 Errors & Solutions**

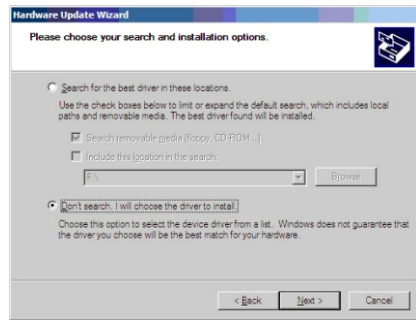
- 1、 Data Communication Failure
  - A、 Check PCI interface
  - B、 Check RS-485/RS-422 output interface wiring
  - C、 Check for normal power supply and see if the indicator is ON
  - D、 Check terminal connection
  - E、 Check receive indicator and see if it flashes
  - F、 Check send indicator and see if it flashes
- 2、 Data loss or error
  - A、 Check consistency between data communication devices' rate and format

## VII、Driver Installation Procedure

When plug in UT-724I, system pops up a window, select “Install from list or designated location” and click “Next” .



A program path selection installation window will pop up as illustrated below. Select “Search in these locations for the best matching driver”, then “Search include this location”, click “browse” and select the folder in the disc. If your operation system is XP, the select Win2KXP folder. If other systems, select the corresponding folder and click “Next” .



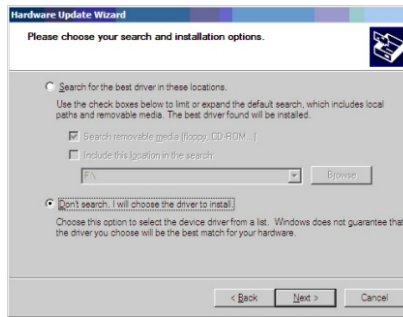
After located and installed the driver, click “Finish” .



New hardware wizard dialog will pop up again, and drivers for the 4 serial ports need to be installed. Select “installation from the list or designated location” and click “Next” .



A program path selection installation window will pop up as illustrated below. Select “search in these locations for the best matching driver”, then “search include this location”, click “browse” and select the folder in the disc. If your operation system is XP, select the Win2KXP folder. If other systems, select the corresponding folder and click “Next” .



After located and installed the driver, click “Finish” .



Install drivers for the remaining ports following the procedures above.

After drivers are installed, open device manager and check if there is any virtual COM port under port tag. If there is not other port driver installed in the system before, the default COM ports are COM3, 4, 5, 6, as illustrated below. All drivers have now been installed on UT-724I.

