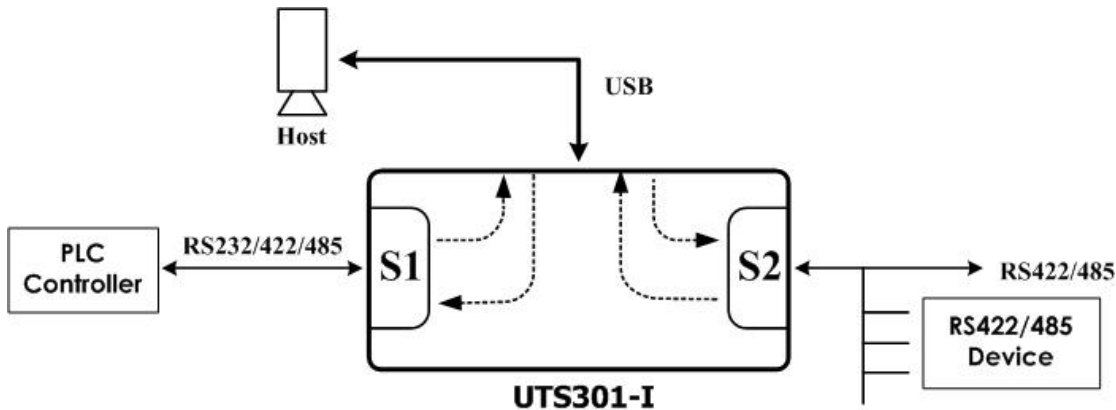# Why you need UTS301-I box

**UTS301-I** box is **less expensive**, **safety** and **flexible** USB to serial port converter. One UTS301-I box can support two serial ports. One serial port can set to RS232, RS422 or RS485 interface easily. The other serial port can support **GROUND isolated** RS422/RS485 interface in rigid application environment.



There are two DB9 connectors in UTS301-I box. Serial port 1 is **RS232/RS422/RS485 settable**, so you can connect with any host equipment. Serial port 2 is **GROUND isolated RS422/RS485** settable. We will use USB bus power to offer power supply for UTS301-I box. The signal ground pin in serial port 1 is same as signal ground pin of USB bus and PC. The signal pin in serial port 2 is different and isolated with serial port 1 and USB bus. So we can remove the ground loop between the device to connect with serial port 2 and your PC.

We can use UTS301-I box in **full-duplex RS232** connection and GROUND isolated **half-duplex RS485** application environment. So we will set serial port 1 in RS232 interface type (DIP Switch bit 1 and bit 2 set in OFF location) and serial port 2 in RS485 interface type (DIP Switch bit 3 in OFF location and bit 4 in ON location). Now we can let your PC to control one RS232 device and control your equipment in RS485 network safety. The **ADDC** (Auto-Data-Direction-Control) feature will handle data transmit/receive function automatically.

We can use UTS301-I box in **full-duplex RS422** connection and GROUND isolated **half-duplex RS485** application environment. So we will set serial port 1 in RS422 interface type (DIP Switch bit 1 and bit 2 set in ON location) and serial port 2 in RS485 interface type (DIP Switch bit 3 in OFF location and bit 4 in ON location). Now we can let your PC to control one full-duplex RS422 device and control your equipment in half-duplex RS485 network safety.

We can use UTS301-I box to control two RS485 segments. So we will set serial port 1 in RS485 interface type (DIP Switch bit 1 in OFF location and bit 2 set in ON location) and serial port 2 in RS485 interface type (DIP Switch bit 3 in OFF location and bit 4 in ON location). Now we can let one serial port to handle one RS485 network in friendly environment and the other serial port to handle another RS485 network in rigid environment safety.

We can use UTS301-I box to control in **full-duplex RS232** connection and GROUND isolated

**full-duplex RS422** connection. So we will set serial port 1 in RS232 interface type (DIP Switch bit 1 and bit 2 set in OFF location) and serial port 2 in RS422 interface type (DIP Switch bit 3 and bit 4 in ON location). Now we can let one PC to control short distance RS232 connection and long distance RS422 connection.

We can use UTS301-I box to control **full-duplex RS422** device in friendly environment and full-duplex **RS422 device** in rigid environment safety. So we will set serial port 1 in RS422 interface type (DIP Switch bit 1 and bit 2 set in ON location) and serial port 2 in RS422 interface type (DIP Switch bit 3 and bit 4 in ON location).

We can use UTS301-I box to control **half-duplex RS485** network and **full-duplex RS422** device in rigid environment safety. So we will set serial port 1 in RS485 interface type (DIP Switch bit 1 in OFF location and bit 2 set in ON location) and serial port 2 in RS422 interface type (DIP Switch bit 3 and bit 4 in ON location).

As a system integrator we may have one plan to set our environment initially. But we may find something changed in our environment. Generally we may have one target interface type equipment with lower cost. Upon operating environment changed we may need to buy new equipment to suit and pay more money. If we could have one device with interface settable feature, then we can set different interface to meet our new environment. Of course this flexible device may cost a little more initially. **The purpose for UTS301-I box is major in rigid RS422/RS485 application environment.** So we need to have GROUND isolated feature in RS422/RS485 interface. But one day we may need to use in RS232 environment. Then the RS422/RS485 only product may not work in RS232 environment and you need to buy new one. So we let UTS301-I box to support one RS232/RS422/RS485 settable serial port. When you need to use in RS232 environment, you can use this serial port to support RS232 connection. You can also use this serial port as a backup for your GROUND isolated RS422/RS485 application environment to save the backup cost. In flexible consideration RAYON Technology can offer you other solution UTS111-I box. **UTS111-I** box can support one GROUND isolated RS232/RS422/RS485 settable serial port. So it is very easy to use UTS111-I box in any rigid environment. But UTS111-I box may not have backup capability as UTS301-I box. For cost is not an issue condition RAYON Technology can offer you other solution UTS112-I box. **UTS112-I** box can support two GROUND isolated RS232/RS422/RS485 settable serial ports. It is **flexible** in application environment. It is **safety** in rigid environment. You can have two serial ports to **backup** each other.

**In serial port application environment you can send mail to <u>info@rayontech.com.tw</u> or <u>rayon@ms1.hinet.net</u> to talk with over 35 years experience engineer.**