# U2485DB-I box is your solution in rigid environment

Introduction:

U2485DB-I box is one interface converter. You can have one RS232 input connector and one RS422/RS485 input converter. And you can have one RS232 output connector and one RS422/RS485 output connector. From hardware point of view we can find opto-isolation between each connector and power supply to support robust protection from Ground loops and stray currents. From software point of view we can have Auto-Data-Direction-Control feature in Full-duplex and Half-duplex interface convert function without special software involved in control signal. So U2485DB-I box is your optimum solution in serial port communication environment.
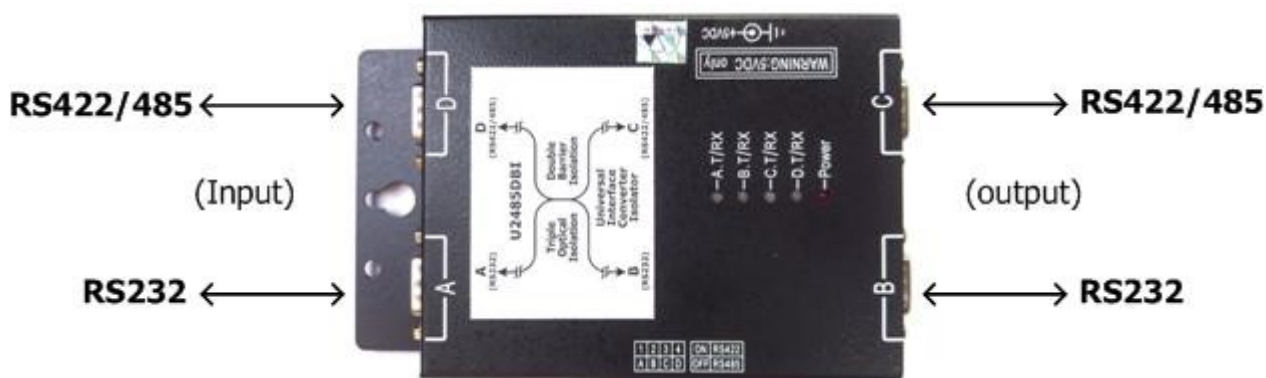

When one user needs to have long distance communication capability, we can use full-duplex RS422 interface or half-duplex RS485 interface. In U2485DB-I box we can set each serial port to target RS422 interface mode or RS485 interface mode vi DIP SWITCH anytime.

Traditionally we need to extend the distance for RS422 connection or the number nodes of RS485 network, we may need one dedicated RS422 repeater box to extend connection range or dedicated RS485 Bridge box to add nodes in RS485 network. In RAYON Technology U2485DB-I box we can arrange to run as RS422 repeater function or RS485 Bridge function. It means that one U2485DB-I box can be your RS232 to RS422/485 interface converter box, RS485 Bridge box and RS422 repeater box. So we can simplify the system structure and save your cost in stock for maintenance. In traditional solution we

need to prepare one box for RS232 to RS422/RS485 interface converter function, one box for RS485 Bridge function or one box for RS422 repeater function. Now the fancy U2485DB-I box can keep only one box in stock for maintenance purpose.
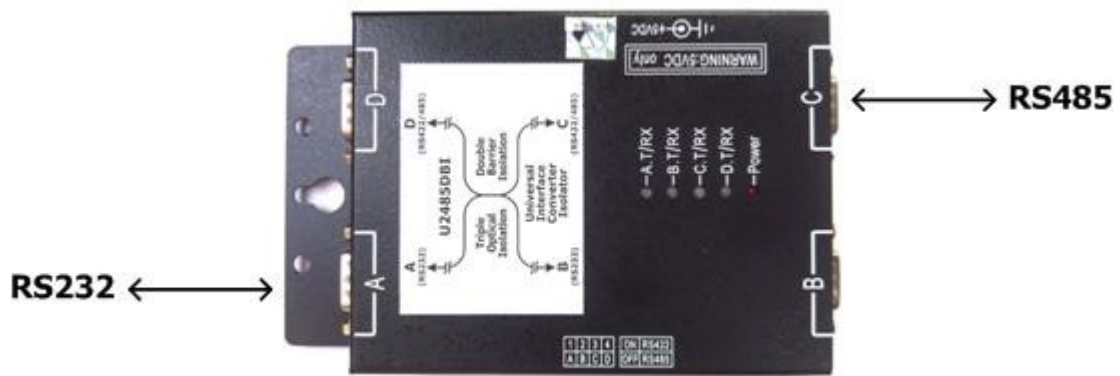
Application Structure:
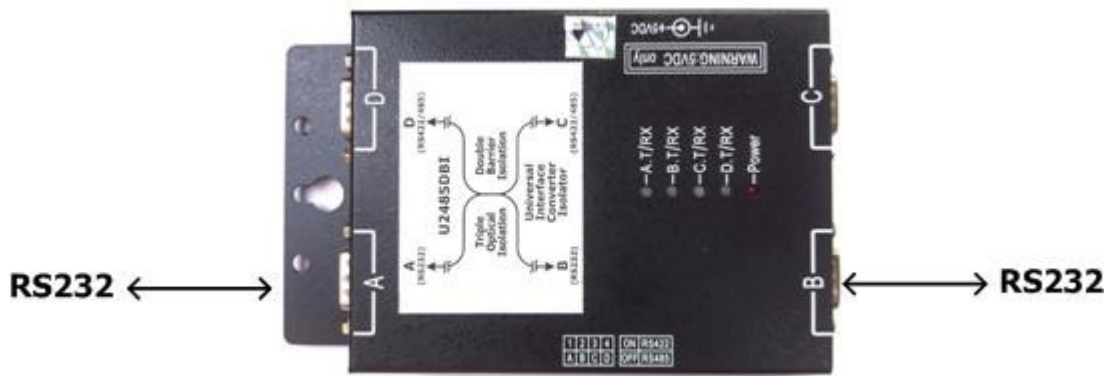
1. To be used as RS232 to RS422 interface converter.
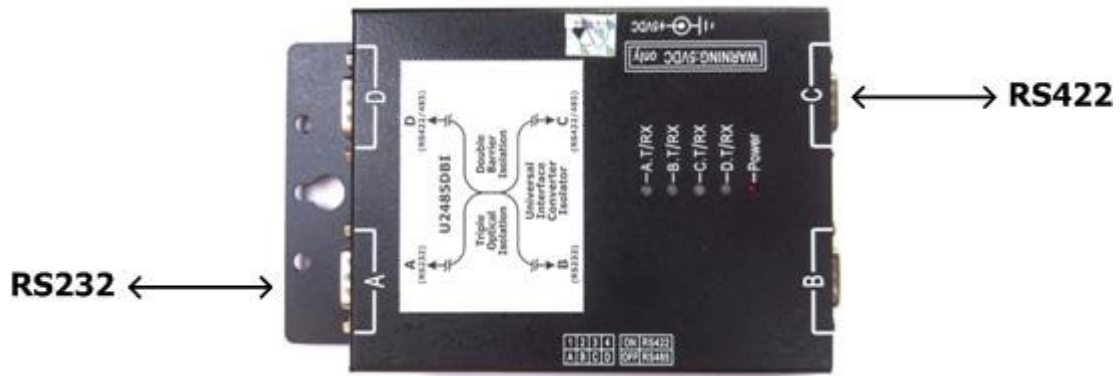
We can use port A as RS232 input and port C as RS422 output（DIP Switch bit3 set in ON location） to have long distance full-duplex communication capability.
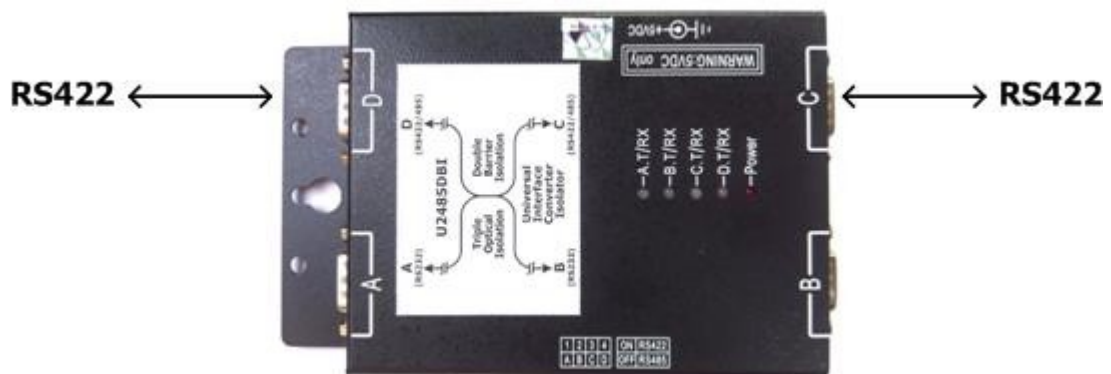
2. To be used as RS232 to RS485 interface converter.

We can use port A as RS232 input and port C as RS485 output（DIP Switch bit3 set in OFF location） to let one RS232 device to work in RS485 network environment.
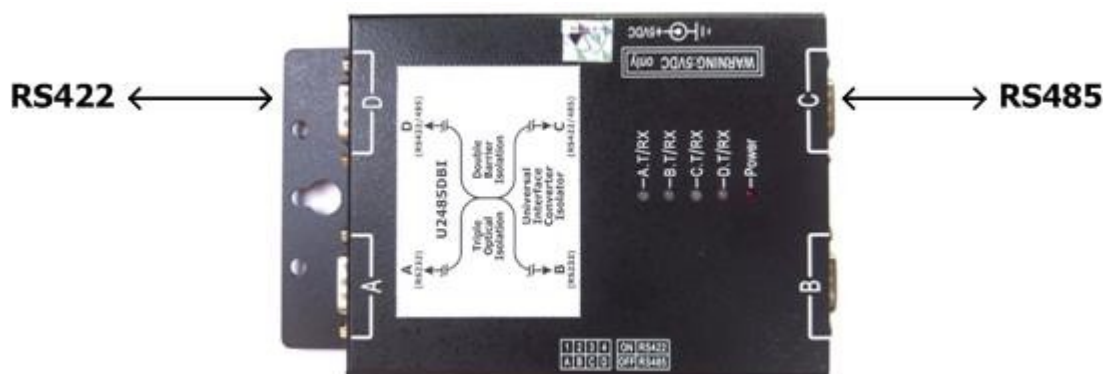
3. To be used as RS232 to RS232 Isolator.

We can use port A as RS232 input and port B as RS232 output（DIP Switch bit2 set in OFF location） to let two RS232 devices with Ground isolated connection.
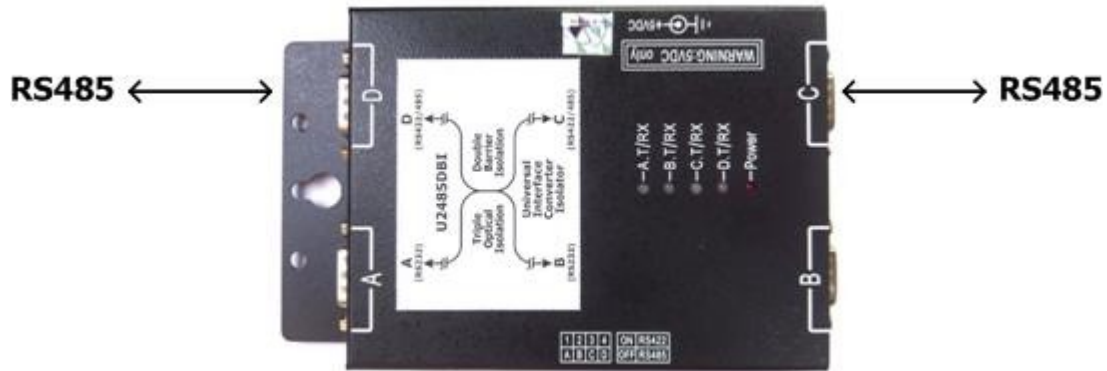
4. To be used as RS422 to RS422 repeater.

We can use port D as RS422 input（DIP Switch bit4 set in ON location） and port C as RS422 output（DIP Switch bit3 set in ON location） to extend the connection range.

5. To be used as RS422 to RS485 interface converter.

We can use port D as RS422 input（DIP Switch bit4 set in ON location）and port C as RS485 output（DIP Switch bit3 set in OFF location） to let one RS422 device to work in RS485 network.
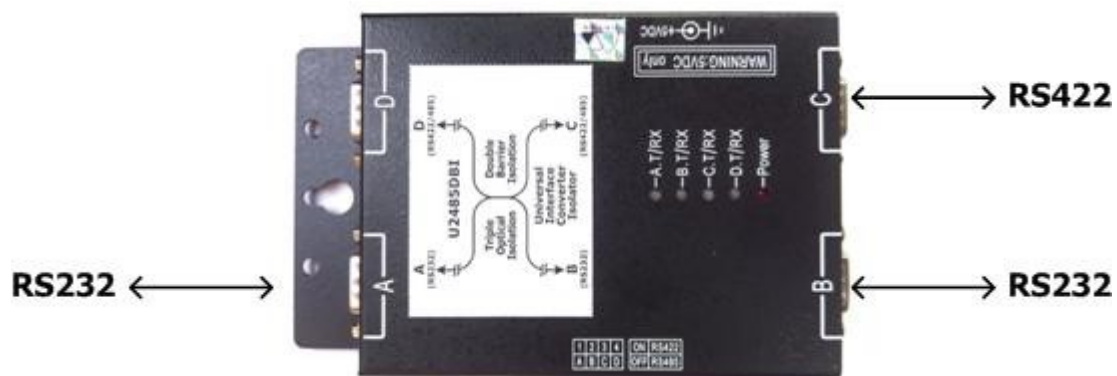
6. To be used as RS485 to RS485 Bridge.

We can use port D as RS485 input（DIP Switch bit4 set in OFF location）and port C as RS485 output（DIP Switch bit3 set in OFF location） to split RS485 network for more nodes support and connection range.

Special application structure:

7. To be used as RS232 Isolator and RS232to RS422 interface converter.

When we need to let one RS232 device to connect with local RS232 device and remote RS422 device, then we can use port A as RS232 input and port B as RS232 output with port C as RS422 output（DIP Switch bit3 set in ON location） for this condition. But we need to confirm the device in output side connection（RS232 device in local connection and RS422 device in remote connection）must not work simultaneously （When both devices send data simultaneously will generate data confliction）. So this special application condition may only be used in "Poll & Ack" environment. One master will send command to target

device and such device will response only.

8. To be used as RS232 Isolator and RS232 to RS485 interface converter.
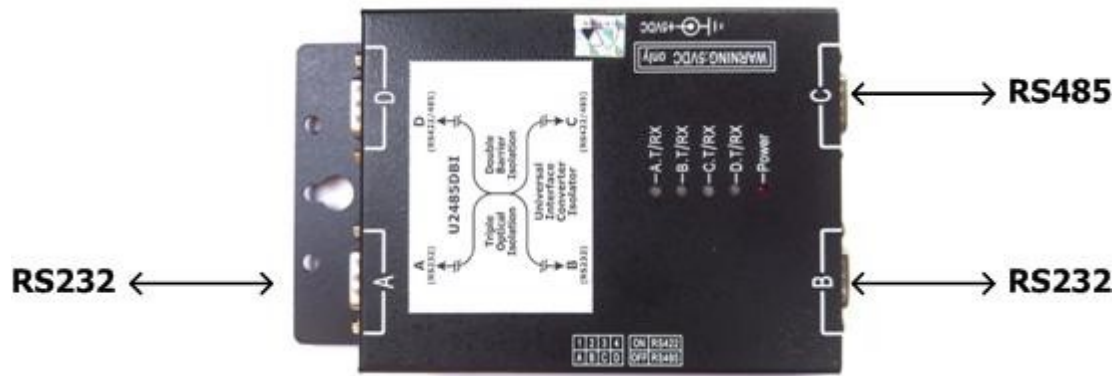
When we need to let one RS232 device to connect with local RS232 device and RS485 network, then we can use port A as RS232 input and port B as RS232 output with port C as RS485 output（DIP Switch bit3 set in OFF location） for this condition. But we need to confirm the device in output side connection（RS232 device in local connection and RS485 device in RS485 network）must not work simultaneously（When both devices send data simultaneously will generate data confliction）. So this special application condition may only be used in "Poll & Ack" environment. One master will send command to target device and such device will response only. Generally the RS485 device in RS485 network will follow this rule and we need RS232 device to follow this rule also.