

# IND-Concepts

System Integration, Industrial Problem solving

## USB to RS422 / RS485 converter

This product is completely designed according to industrial-grade standards.

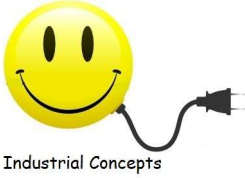
1. The USB cable is selected from high frequency shielded pure copper wire.
2. The RS422 / RS485 interface chip is selected from TI's original industrial-grade chip VP3082. The communication distance can reach 1.2KM. Anti-jamming performance;
3. CH340/CH341 Chipset, the communication rate can reach 2M; 4. The RS422 / RS485 output interface adopts simple isolation circuit and 600W lightning protection to further enhance anti-interference; industrial standard design, very suitable for industrial use;

The pins are arranged as follows: (the product label is marked)

- 2 ----- T + (A) Positive end of RS422 / D + (A) of RS485
- 3 ----- T- (B) Negative end of RS422 transmission / D- (B) of RS485
- 7 ----- R + RS422 positive terminal
- 8 ----- R- RS422 negative terminal
- 5 ----- GND

- Power supply (no external power supply is needed) power is supplied by USB port;
- System requirements: WINDOWS98 / ME / 2000 / XP / server2003 / VISTA / server 2008 / WIN 7 8 10 / 64 / 32-bit operating system version;
- Interface standard: RS485 / RS422 / 232 standard conforming to TIA / EIA;
- Support baud rate range: 300bps-200kbps;
- Comply with USB2.0 standard, compatible with USB1.1;
- Support remote wake-up and power management;
- Support plug and play and hot plug (USB end);
- Working mode: asynchronous work, point-to-point or multi-point, 2-wire half-duplex, 4-wire full-duplex, shielded ground;
- Direction control: Automatic data flow control technology is used to automatically determine and control the direction of data transmission
- Load capacity: Support point-to-multipoint. Each converter can allow 128 RS-422 or RS-485 interface devices to be connected.
- Transmission distance: 1200 meters at RS-422 / RS485 side (at 9600bps), USB port no more than 3 meters
- Interface protection: 600W lightning protection, surge protection,  $\pm 15KV$  electrostatic protection
- Operating environment:  $-25^{\circ}C$  to  $70^{\circ}C$ , relative humidity is 5% to 95%;
- Transmission medium: twisted pair or shielded wire;

When the communication distance is long, shielded twisted pair should be used, and a terminator or a terminating resistor can be used to reduce the echo reflection. Shield Ground GND



Industrial Concepts

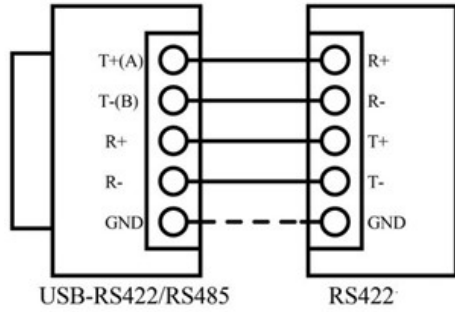
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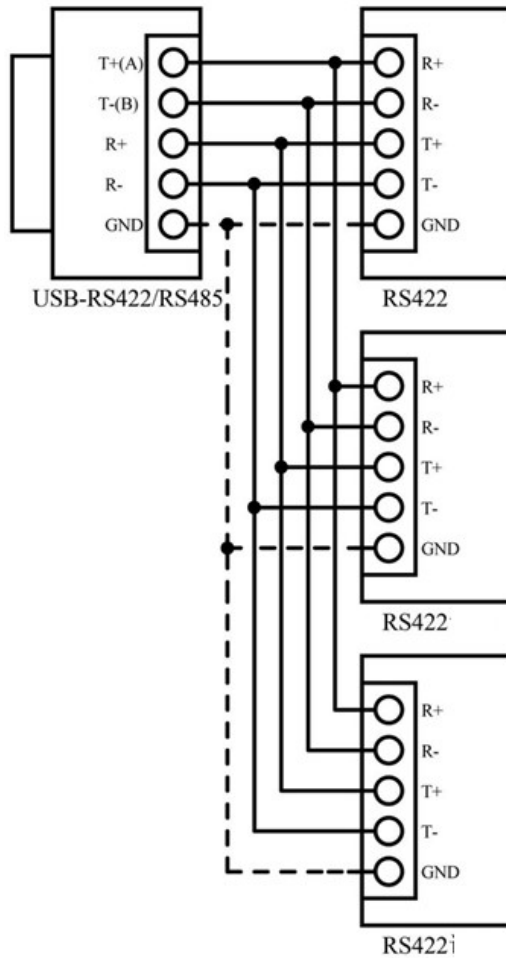
Examples of wiring USB to RS422 conversion

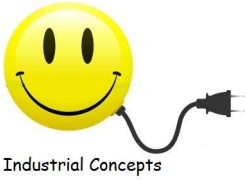
## Adapter communication with RS422 Device.

1. RS422



2. RS422



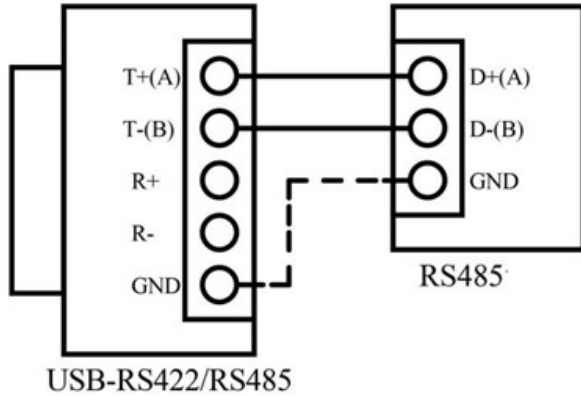


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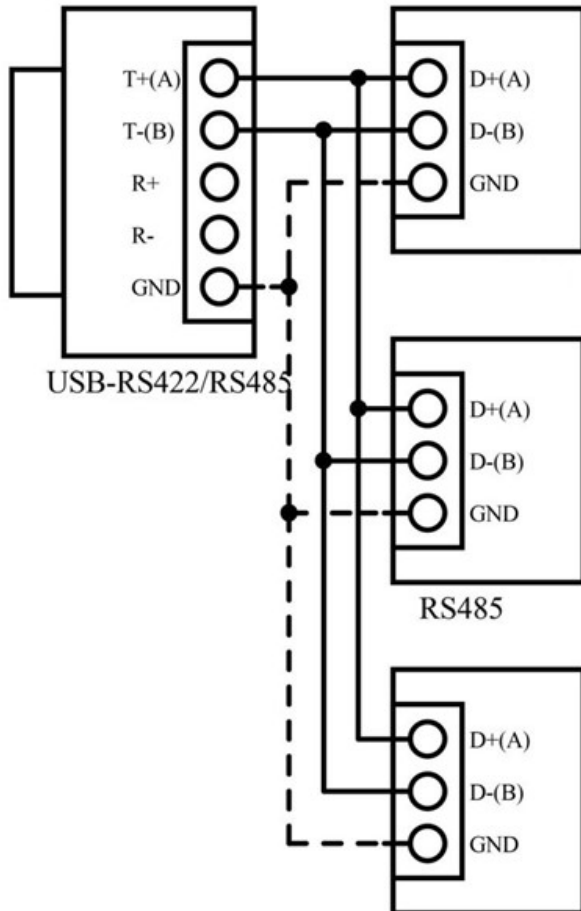
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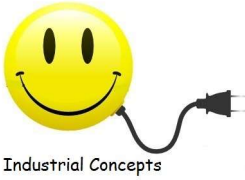
## Adapter communication with RS485 Device.

### 1. RS485



### 2. RS485



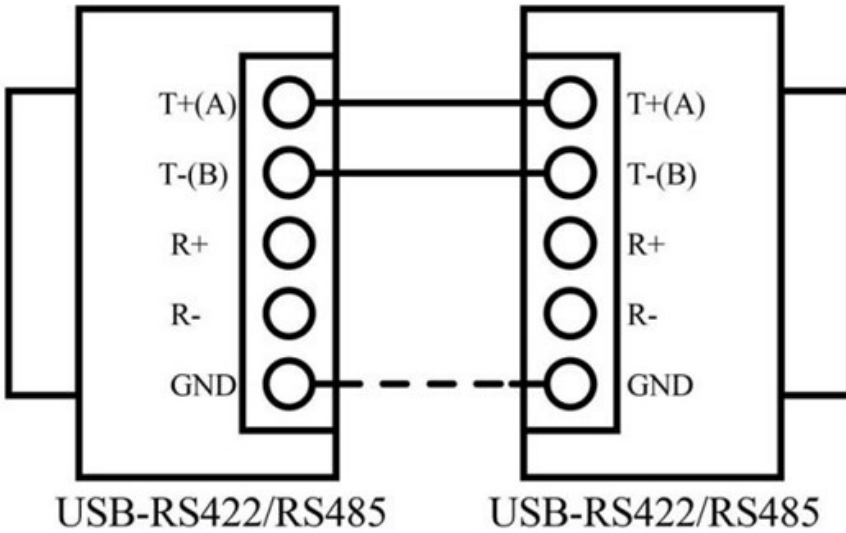


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**Adapter communication with another adapter.**

## 1.RS485



## 2.RS422

