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Multi USB/RS232/RS485/TTL Converter (SKU:TEL0070)

Contents

Introduction

Multiplexer is a multi protocol converter which is composed by multiple interfaces for using controller communication. Multiplexer supports conversion interfaces among USB, TTL, RS232, RS485, and allows to have one input and multiple outputs. It's more convenient for many kinds of controllers to communication.

Power Supply

Supply Voltage is 5V， and is divided into two way.

1. via Micro USB data wire.
2. Any pin 5V .

    Note : please do not plug two or more 5V to aviod to burn the chip. And, do not connect 5V if already connected from Micro USB.

PIN Function Description

Points to note:

1. Multiplexer board is divided into Area A and Area B. Area A includes Micro USB、ATTL and A232 interfaces. Area B includes BTTL、B232、B485 interfaces. The signal can be convertered between A and B.
2. The signal in the same area can't be convertered. For example, ATTL can't be converted to A232, but it can be convertered to B232.
3. Only one input in the same area, but it allows to have multiple outputs.For example, if micro USB interface in A is input, multiplexer can be allowed to have 232、485 and TTL as outputs.

Indicator：**POWER:**power indicator **AR->BT:** The interface in A as input, the interface in B as output **BR->AT:** The interface in B as input, the interface in A as output
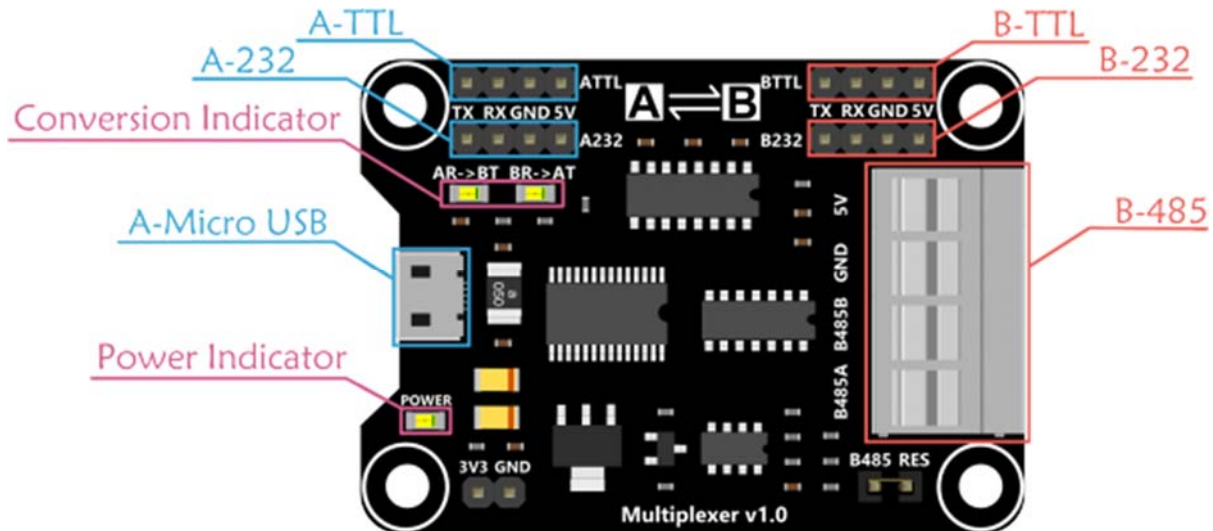
Usage Direction

Sample descripition: The multiplexer board achieve USB to TTL, micro USB interface in A as input and the TTL interface in B as output. The operation is same for USB to 232 and 485.Similarly, the reverse converter B to A is also feasible,such as 232 to USB,485 to USB, TTL to USB.

STEP 1：Hardware Requirements

1. DFRduino UNO R3
2. USB Cable A-B for Arduino
3. Micro USB Cable
4. Arduino Jumper Cables

STEP 2：Connection

1. Plugin Micro USB cable to multiplexer board. The "POWER" LED turns on at the same time.

2. Multiplexer need to install driver before you use. Driver installed completed, please open *Control Panel -- Device Manager* in your PC. You will see a new port.

driver download http://www.ftdichip.com/Drivers/VCP.htm

3. According to the following connection diagram， connect it.

4.Plugin the A to B USB to UNO
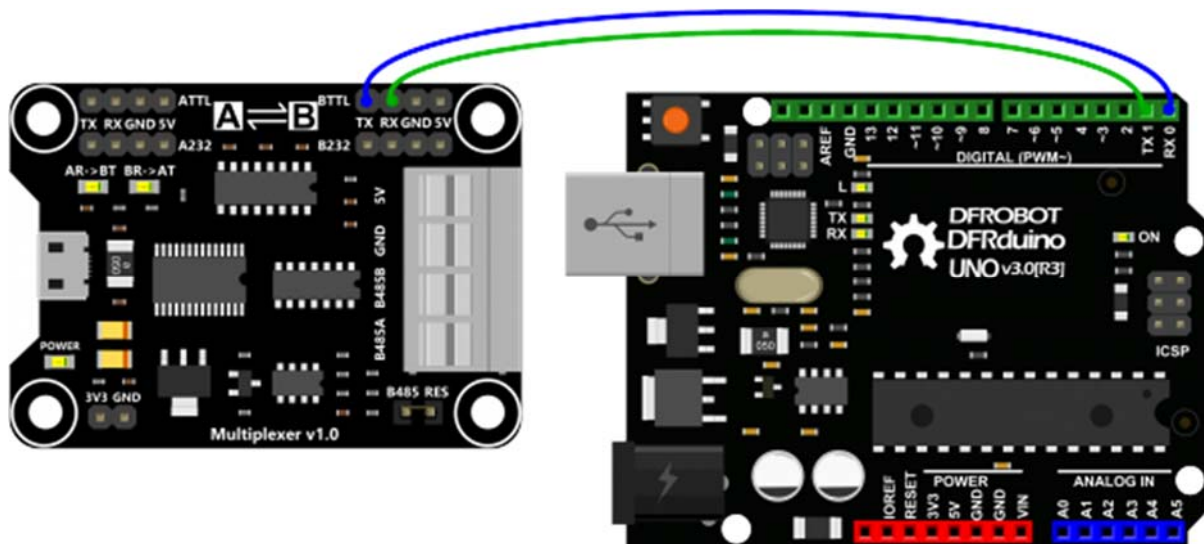
STEP 3: Program a sample code for your Arduino UNO
Library installation https://www.arduino.cc/en/Guide/Libraries#.UxU8mdzF9H0

```
void setup()

{

  Serial.begin(115200);

}

void loop()

{

  if(Serial.available()){

  Serial.write(Serial.read());

  }

}
```

STEP 4： Send and Receive data

We need a serial monitor for monitoring data. There're lots of good tools like putty,CoolTerm and so on.In this case, we choose CoolTerm to do this.   http://freeware.the-meiers.org/

Please set the baud rate to 115200 bps and com port.Back to the main interface, click **Connection--Send String**, the following dialog will open.

You can send the string in this dialog. The string received can be showed in the other port(UNO port).
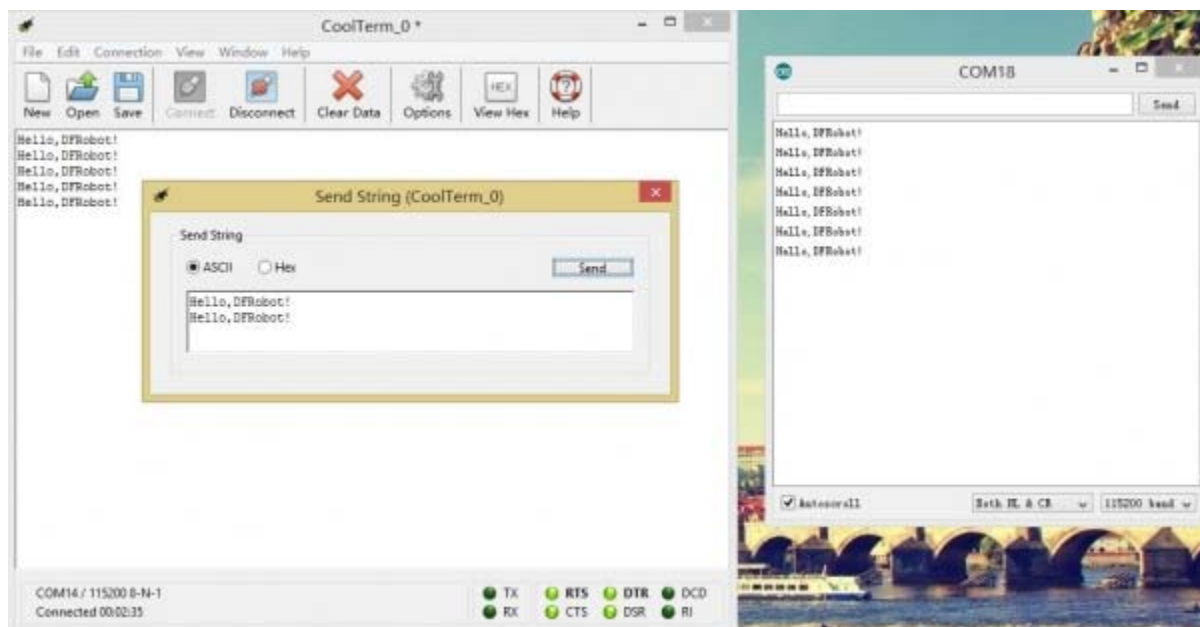
Thus far， you achieve the function USB to TTL.

However, you can test reversed converter based on this function, being B to A converter. You only need to change the UNO code. You will see the change that coolterm will receive data from UNO.
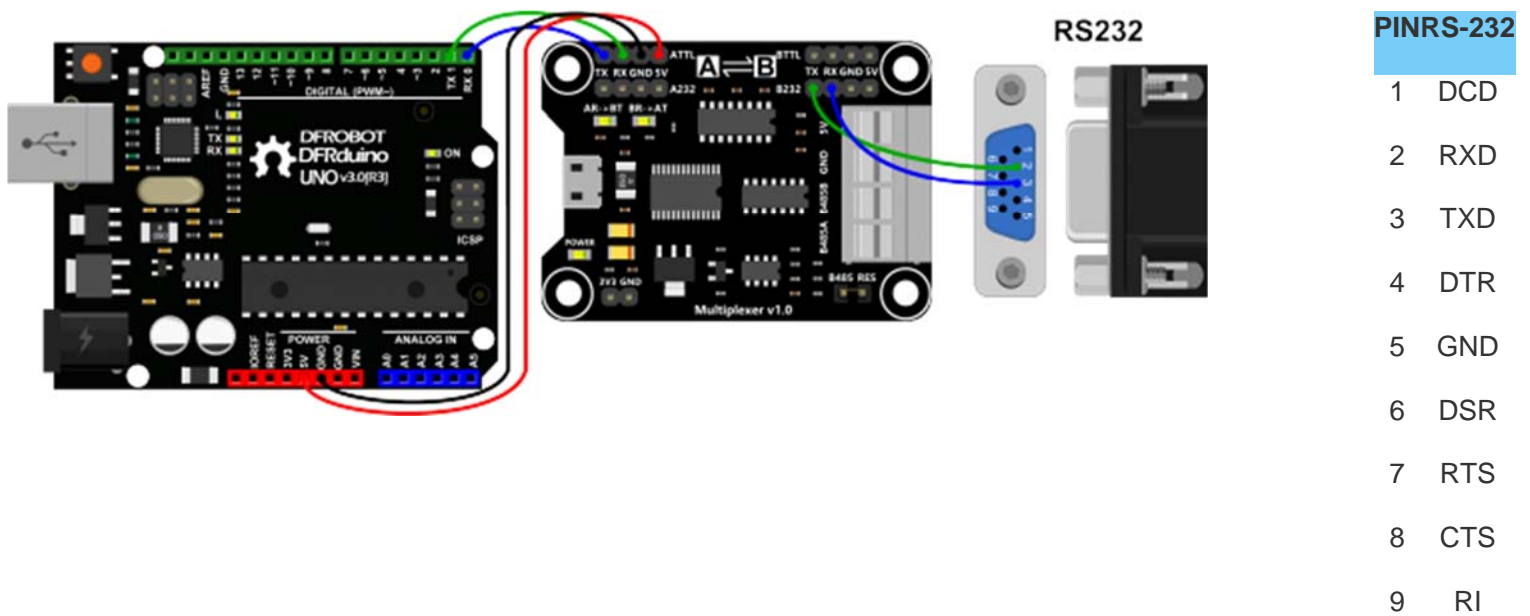
Refer to the test code：

```
void setup()
{
  Serial.begin(115200);
}
void loop()
{
  Serial.print("Hello,DFRobot！");
  Serial.println();
  delay(500);
}
```
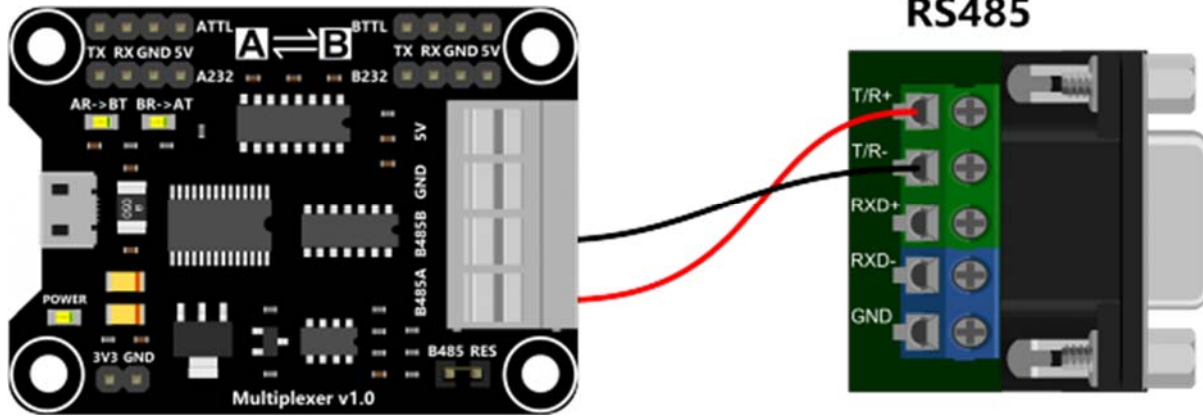
Other Reference Connection

1.TTL to 232 converter

PINRS-232	
1	DCD
2	RXD
3	TXD
4	DTR
5	GND
6	DSR
7	RTS
8	CTS
9	RI

2.USB to 485 converter

Trouble shooting

More question and cool idea,visit DFRobot Forum