DX-CP24

Bluetooth to RS485 wireless adapter

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Update Records

Version	Date	Description	Author
V1.0	2023/5/10	initial version	DL
V1.1	2023/7/7	Add new parameter data	DL
V1.2	2023/8/3	Add icon	LSL

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1. Introduction

1.1. Overview

DX-CP24 is a multi-function Bluetooth wireless adapter developed by Shenzhen DX-SMART Technology Co. Ltd. It supports converting Bluetooth into 485 dual interface serial device and replacing traditional cables. Multifunctional, flexible, and stable.Customers can connect to mobile phones, computers, devices, etc. according to their needs for data exchange.

2. 产品示意图

1. A+：485 interface
2. B+：485 interface
3. VCC：power supply interface
4. GND：power supply interface
5. WORK：(BLE status indicator)
6. RX：(data reception indicator)
7. TX：(data transmission indicator light)
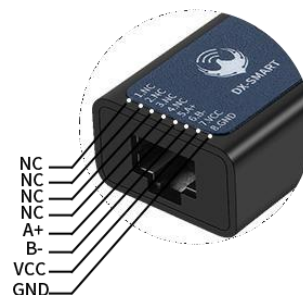8. KEY ：(BLE disconnect button)
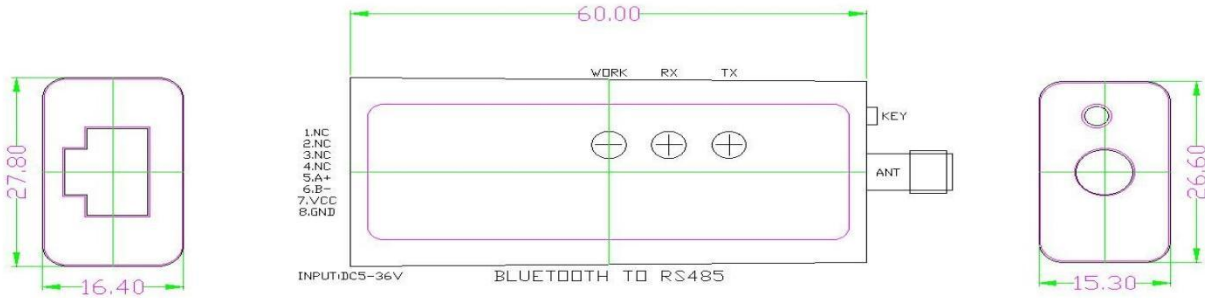9. ANT：(external antenna interface)

Figure   1：   CP24 product diagram

Figure   2：   CP24 product dimension drawing

3.   Hardware structure description

3.1.   KEY button

●   KEY button function：

    Bluetooth connected status: Short press once to disconnect the Bluetooth connection;

    Bluetooth is not connected: press twice in succession to switch the baud rate;

●   Baud rate switching method:

    Press the KEY pin twice in succession to switch the baud rate. The number of flashes of the blue light represents the baud rate number;

    Flashing once is 2400, flashing twice is 4800, flashing three times is 9600, flashing four times is 19200, flashing five times is 38400, and flashing six times is 57600.seven times 115200;

3.2.   TX\RX\WORK indicator light

●   TX   Data indicator: flashing when Bluetooth sends data.

●   RX   Data indicator: flashing when Bluetooth receives data

●   WORK status indicator：

✧ Bluetooth not connected status: blue light blinks, the number of times the blue light blinks represents the baud rate number. The number of times the blue light blinks represents the baud rate number. 2400 for one blink, 4800 for two, 9600 for three, 19200 for four, 38400 for five, 57600 for six, and 115200 for seven.

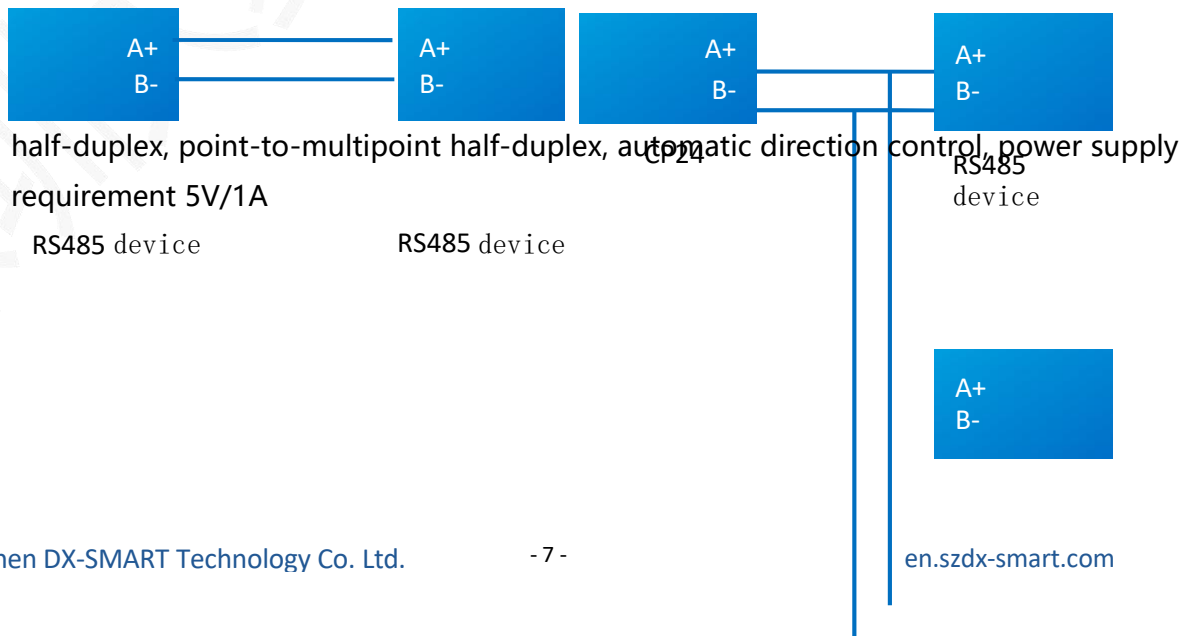✧ Bluetooth connected status: blue light is on for a long time.

4. Specification

4.1. Bluetooth default parameters

● Bluetooth name：RS232\485

● Module serial port default parameters：9600bps/8/n/1 （baud rate/data bit/no parity/stop bit)

● Module BLE UUID： SERVICE UUID: FFE0

NOTIFY/WRITE UUID: FFE1

WRITE UUID: FFE2
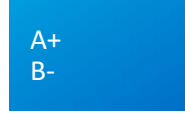
4.2. Hardware interface params

● RS485 communication port：default baud rate is 9600，load capacity can connect up to 32 devices，communication distance is 1200 meters (9600bps) Working mode: point-to-point

half-duplex, point-to-multipoint half-duplex, automatic direction control, power supply requirement 5V/1A

RS485 device   RS485 device

RS485
device

·
·

A+
B-

RS485 device

Figure 3: 485 point-to-point, point-to-multipoint half-duplex communication diagram

5. Android APP Modify Module Parameters

1.Step 1: Connect CP24 to the device through the 485 interface;

2.Step 2: Install the Android testing app in the data package onto the Android phone, open the transparent interface for searching and connecting (Mobile phone search module requires Bluetooth and location to be switched on);

3.Step 3: After searching for the Bluetooth name, click on the name to connect;

4.Step 4: Click "Query" to get the default parameters of the module;

5.Step 5: Fill in the Bluetooth parameters that need to be modified, and then click "Set".

Figure 4：Android APP Modify Module Parameters

6. Wireless communication between CP26 and Phone＆desktop

The device communicates with the mobile phone and computer via the CP24 Bluetooth wireless converter in the combination shown below:
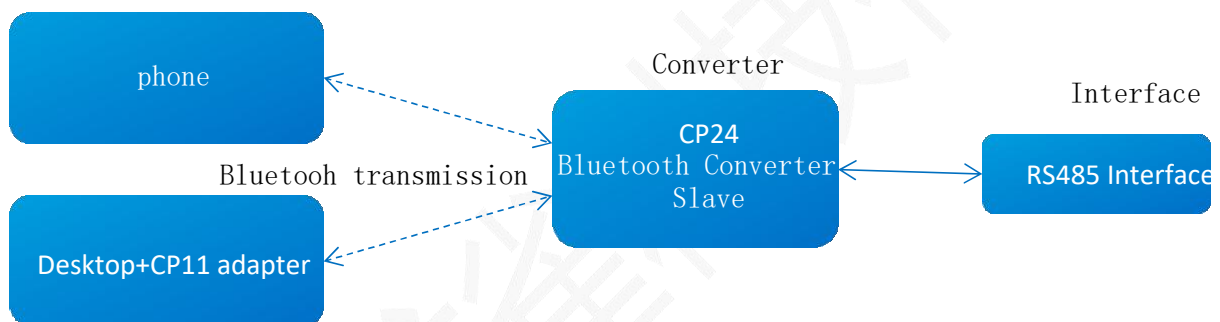

Figure 5：CP24 Functional diagram

6.1. Wireless communication between devices and mobile phones

1. Step 1,　Connect the CP24 wireless Bluetooth adapter to the device via RS485 interface;

2. Step 2, install the Android test APP in the package to Android mobile phone, open the interface of transmitting to search and connect (Android APP interface is shown in Fig. 5); Apple test APP, download our company "DX-SMART" in Apple Store, and use this APP to test the data transmission (Apple APP interface is shown in Fig. 6);

3. Step 3, after searching the Bluetooth name RS232\485, click the name to connect;

4. Step 4, after connecting, you can carry out data interaction;
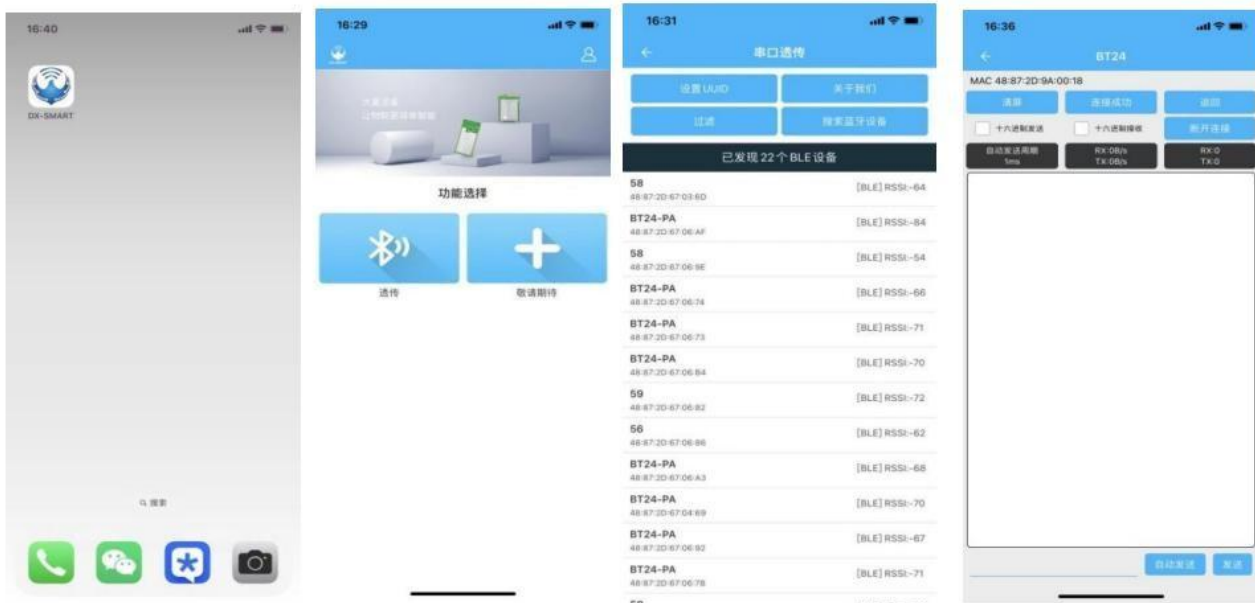
Figure 6： **Android APP interface diagram**

Figure 7： **Apple APP interface diagram**

6.2. Connect devices and Android phones by scanning QR code

1.Step 1: Connect the CP24 wireless Bluetooth adapter to the device via the RS485 interface

2.Step 2: Install the Android testing app in the data package onto the Android phone, and open the scan interface to scan and connect (the APP interface is shown in Figure 9);

3.Step 3: After aligning the device QR code, a "drop" sound indicates successful connection;

4.Step 4: After connecting, data exchange can be carried out;

Figure 8：**Android app scans QR code to connect**

6.3. wireless communication between devices and computers

The computer side needs to be used with our CP11 Bluetooth adapter.

1. Step 1, connect the CP24 wireless Bluetooth adapter to the device via RS485 interface;

2. Step 2: Install the "CH341" driver in the package on your PC;

3. Step 3: Plug the CP11 adapter into your desktop computer;

4.Step 4, install sscom5.13.1 computer serial port software, open the serial port software and select the COM port corresponding to the CP11 adapter, the serial port software to install the default parameters of the configuration that is: 9600bps/8/n/1 (baud rate / data bits / no parity / stop bit);

5. Step 5, the CP11 adapter will actively search for the CP24 Bluetooth adapter and connect it;

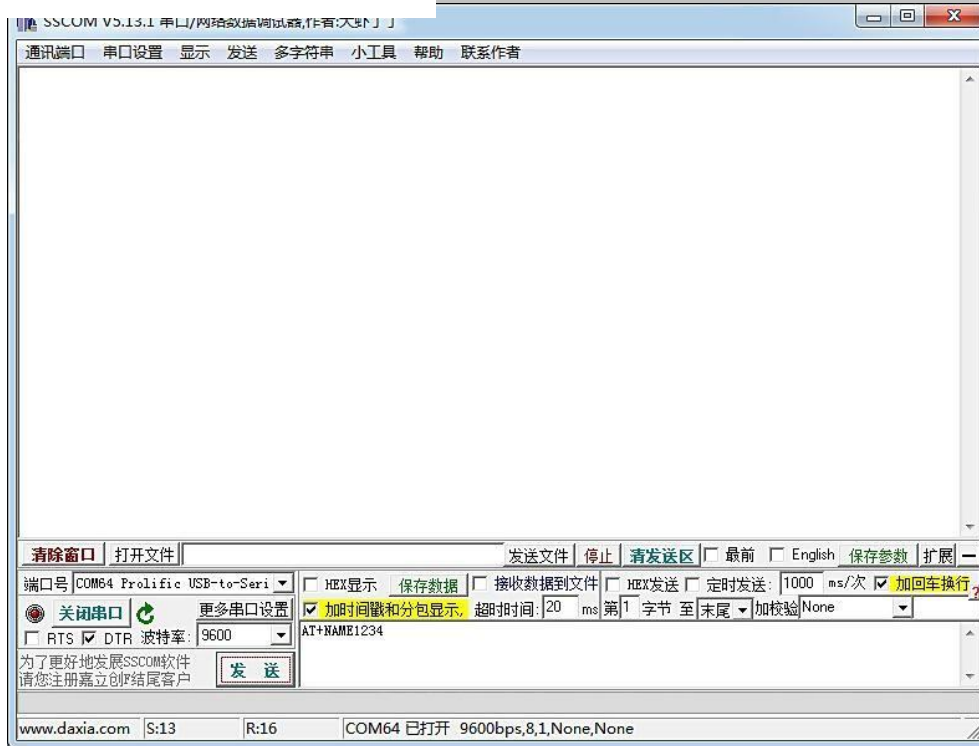6. Step 6, you can interact with the data after connection;

Figure 9：Serial Port Software Diagram for Computer

6.4. Wireless communication between devices and Laptop

Laptop Bluetooth can be directly connected with "CP24-Laptop" (PC system below Win10 can be directly connected, Win11 must be used with a Bluetooth adapter).

1.Step 1: Connect CP24 to the device through the 485 interface;

2.Step 2: After searching for the Bluetooth name, click on the name to connect;

3.Step 3，Search for 'RS232485' and enter '1234' to connect.

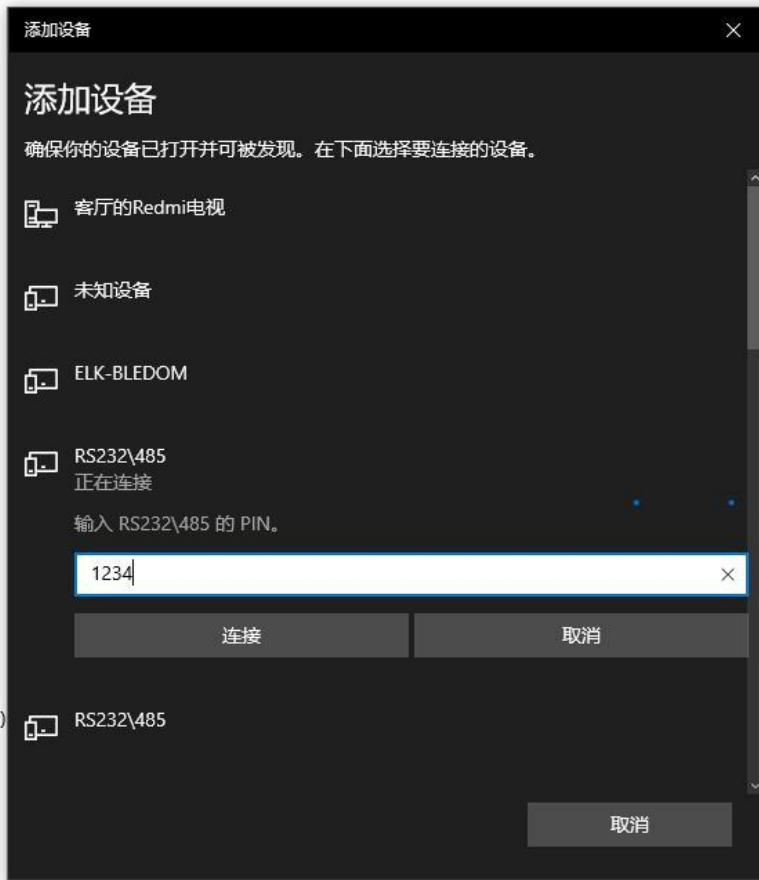4.Step 4，After connecting, data exchange can be carried out

Figure 10：Laptop Bluetooth Connection Diagram

7. Wireless communication between devices and devices

Wireless data communication between the two devices is realised between the 485 interfaces via the CP24 Bluetooth wireless converter as shown below:
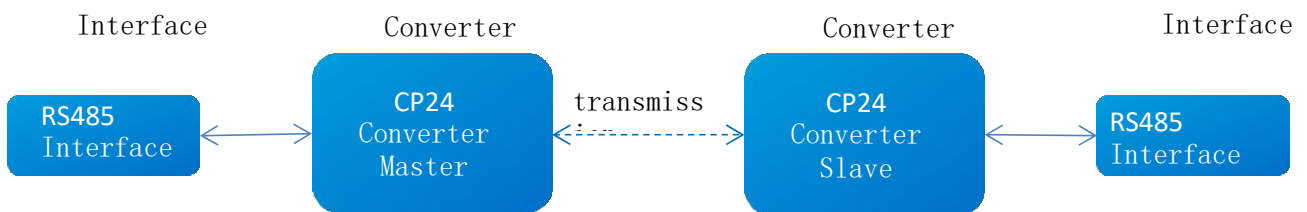

Figure 11：CP24master-slave connection

1. Step 1, a CP24 master is connected to device 1 via the 485 interface;

2. Step 2, a CP24 slave is connected to device 2 through the 485 interface;

3. CP24 Master connects to CP24 slave via Bluetooth to achieve wireless data communication between device 1 and device 2.

8.　Points for attention

- Avoid external pressure on the product
- Indoor and outdoor use in normal temperature environments, prohibited from use in damp or watery environments
- Non professionals are not allowed to disassemble and repair themselves

9.　Packing List

- ✧ Product
- ✧ Glue stick antenna
- ✧ RJ45 plug to 4P 5.0mm terminal block
- ✧ Manual

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×1
×1
×1