

VDU2506D双基站规格书

VDU2506D Dual anchor

Datasheet

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设备清单/Product List

名称/Item	型号/Model Number	数量/Number	备注/Remark
超宽带双向测距基站 UWB bi-directional ranging base station	VDU2506D	1pcs	
供电网线 The power supply cable		1pcs	

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1 产品介绍/Product Induction

VDU2506D 是一款基于 UWB 的高精度定位基站。增强射频收发性能，并对射频链路增加了 PA 和 LNA 提升其收发性能，让射频功能覆盖范围更广，测距精度更高；单 POE 供电即可，可不用额外接 DC 电源，从而降低了安装的施工难度。

VDU2506D is a high precision positioning Anchor based on UWB. Enhance the RF transceiver performance, and add PA and LNA to the RF link to improve its transceiver performance, so that the RF function coverage range is wider and the ranging accuracy is higher; Single POE power supply, but no additional DC power supply, thus reducing the difficulty of installation construction.

双基站基于 Decawave DW1000 超宽带芯片，支持 IEEE802.15.4-2011 UWB 协议，主控 IC 采用 nordic 蓝牙 4.2 芯片 nRF52832。增加 TF 卡功能，支持网关在断网的情况下存储数据；并且保留串口芯片，支持 USB 转串口功能。

The Dual anchor are based on Decawave DW1000 UWB chip and support IEEE802.15.4-2011 UWB protocol. The Nordic Bluetooth 4.2 chip nRF52832 is adopted as the main control IC. Add the function of TF card, support the gateway to store data when the network is down; And retain the serial port chip, support USB to serial port function.

双基站复杂版带 485 串口功能，方便接到工控机调试；满配版带网口和 WiFi 上网功能，可以直接使用 TCP/IP、UDP 协议把串口数据透传到 TCP/IP、UDP 的服务器上，方便组网调试 TWR 定位系统；也可以通过板内 WIFI 模块连接 SPI 屏输出具体数据。

The Dual anchor complex version with 485 serial port function, easy to connect to the industrial computer debugging; Full version with network port and WiFi functions, you can directly use TCP/IP, UDP protocols to transmit serial port data to TCP/IP, UDP server, convenient network debugging TWR positioning system; SPI screen can also be connected through the WiFi module inside the board to output specific data.

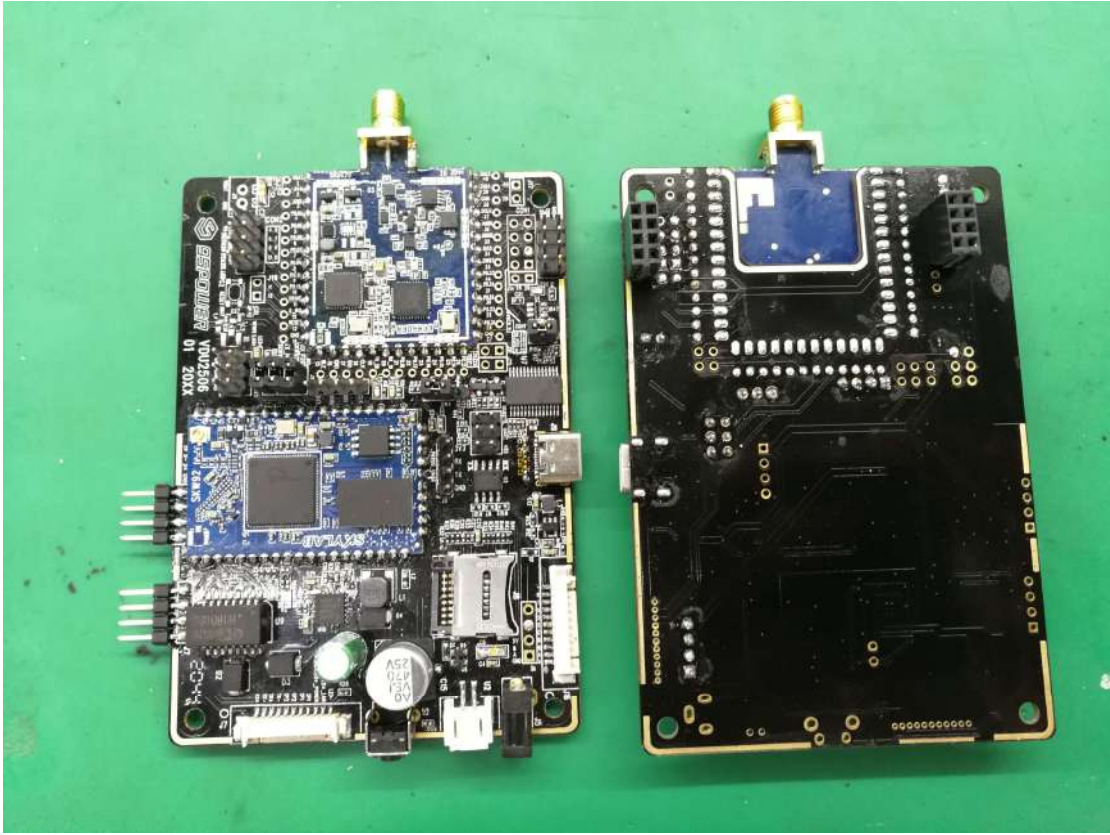


Figure 1.1 VDU2506D-主从基站/VDU2506- Master and slave anchor



Figure 1.1 VDU2506D-主从基站叠板/VDU2506- Master and slave anchor stack

2 基本参数/Basic Parameter

供电/Power supply	
POE 供电/ POE power supply	POE 48V
直流电源供电/ DC power supply	Input voltage DC 5V
UWB 无线参数/ UWB wireless parameters	
支持协议/ Support agreement	兼容 IEEE802.15.4-2011 UWB 协议/ Compatible with IEEE802.15.4-2011 UWB protocol
频率/Frequency	默认 3.9936GHZ, 支持全通道 ch1-5/ Default 3.9936 GHz, support full channel CH1-5
功耗/Power dissipation	通讯峰值电流 800mA/ Peak communication current 800mA
最大发射功率/Maximum transmitting power	21dBm
接收灵敏度/ Receive sensitivity	-105dBm
数据传输速率/Message transmission rate	默认 6.8Mbps, 支持 110Kbps, 850kbps Default 6.8Mbps, 110Kbps, 850Kbps
数据存储/Data storage	支持网关掉电存储数据/ Support gateway power down storage data
BLE 参数/Ble parameters	
支持协议/ Support agreement	Support BLE4.2
频率/Frequency	2400MHz-2483.5MHz
存储/Storage	512 kB flash/64 kB RAM
定位性能/Positioning performance	
定位精度/Positional accuracy	<30cm (基站标签无遮挡) / <30cm (base Station Label Without Shielding)
推荐基站布局间隔/ Base station spacing is recommended	<200m, 基站与基站互相测距能达 1km/ <200m, The Distance Between Base Station And Base Station Can Reach 1km

数据上传方式/ Data uploading method	100M 以太网, WIFI/ 100M Ethernet, WiFi
操作环境/ Operating environment	
工作温度/ Operating temperature	-30°C~70°C
存储温度/ Storage temperature	-40°C~85°C

Table 2.1 产品参数 Product Parameter

3 有线数据输出/Wired data output

3.1 接线/Wiring

1.接线图如下/The wiring diagram is as follows:



Figure 3-1 VDU2506D 主从基站不带屏/VDU2506D master and slave anchor do not have screens

3.2 数据接线方式/Data connection mode

①网线从电脑网口接至路由器 LAN 口；

The network cable is connected from the computer network port to the router LAN port;

②路由器 LAN 口接至交换机；

The router's LAN port is connected to the switch;

③交换机 POE 网口接至 VDU2506 网线端口；

Switch POE network port is connected to VDU2506 network cable port.

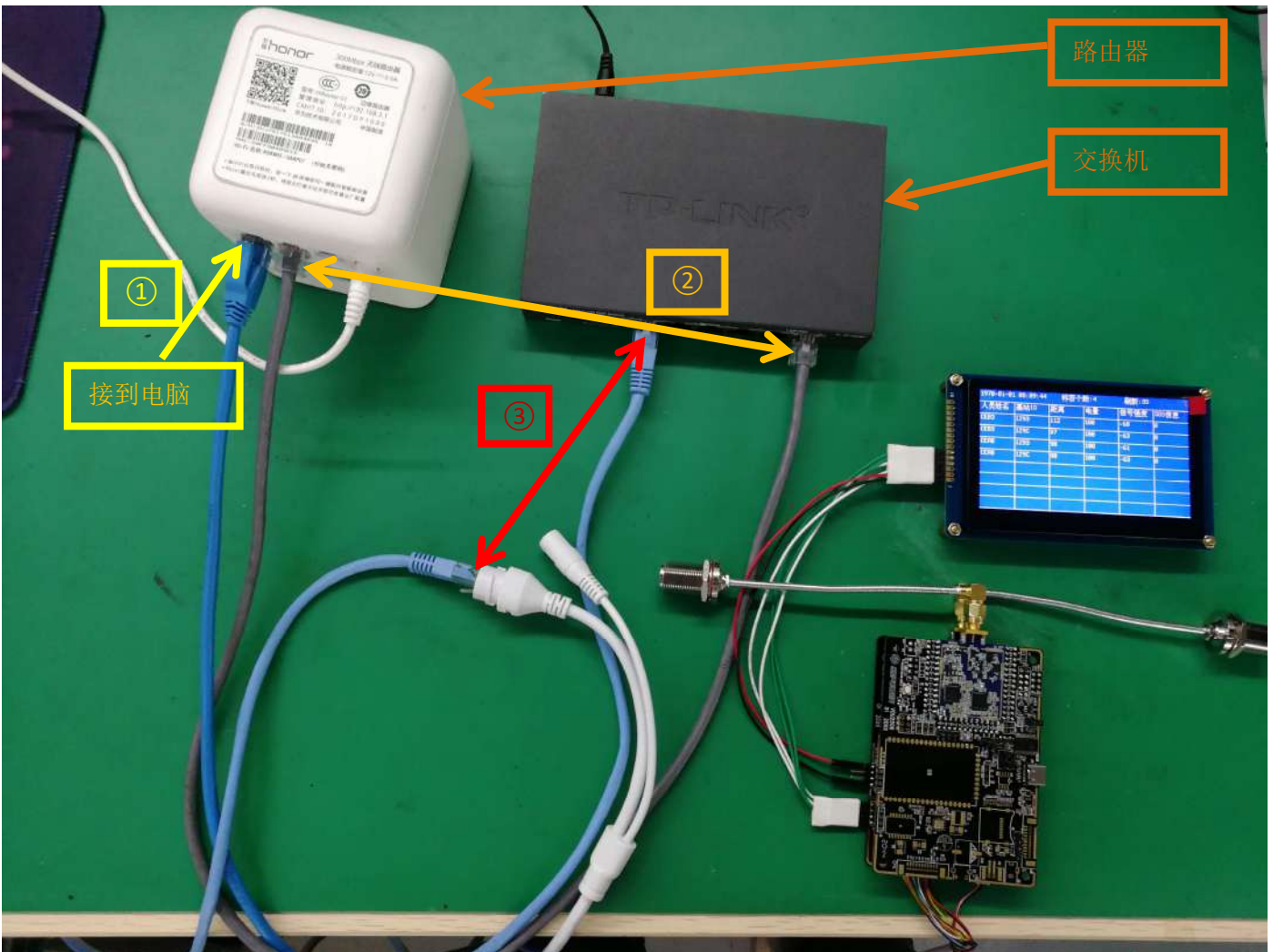
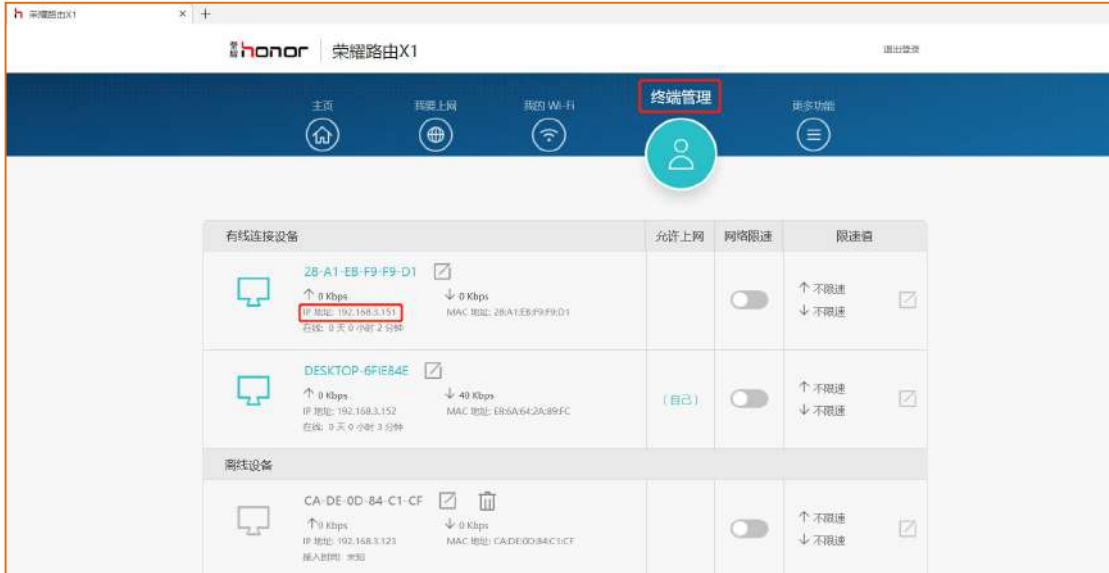


Figure 3-1 VDU2506D 主从基站接线方式/VDU2506D connection mode of master and slave anchor

3.3 数据输出/Data output

1. 登入路由器查询基站分配到的 IP 地址;

Log in the router to query the IP address assigned to the anchor;



2. 根据分配到的 IP 地址，登入到 web 界面设置相关的内容，登入默认账号密码：admin、admin;

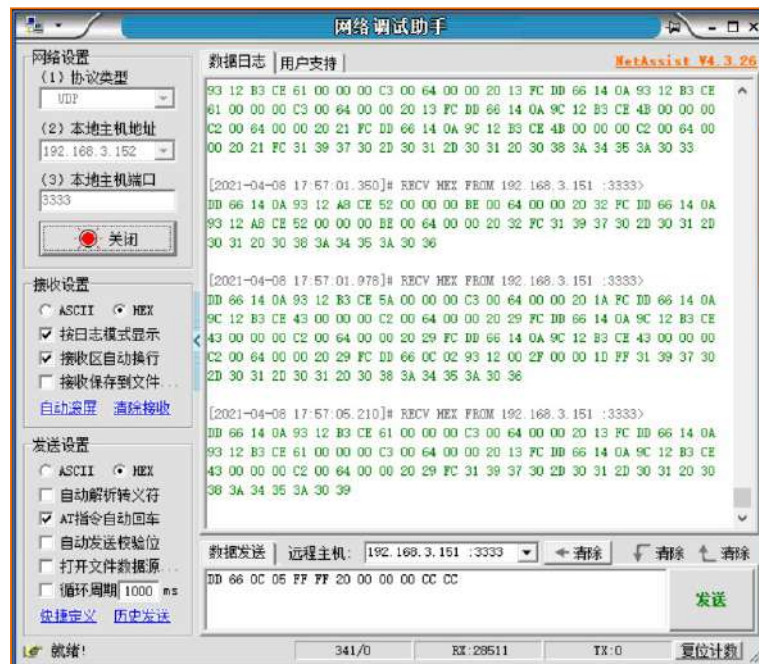
According to the assigned IP address, log in to the Web interface to set the relevant content, log in the default account password: admin, admin;



3.设置推送的 IP 地址和端口，如果是局域网就设置跟本 IP 段一样的，如果推送云端就让路由器接入以太网；
Set the IP address and port of the push. If it is a LAN, set the same IP segment as this one. If it is pushed to the cloud, let the router access Ethernet.



4.数据推送如下/The data push is as follows:



4 无线数据输出/Wireless data output

4.1 接线/Wiring

1.两种供电方式：①5V 直流供电，电流 1A 以上；②POE 供电

Two kinds of power supply: (1) 5V DC power supply, current 1A above;(2) the POE power supply

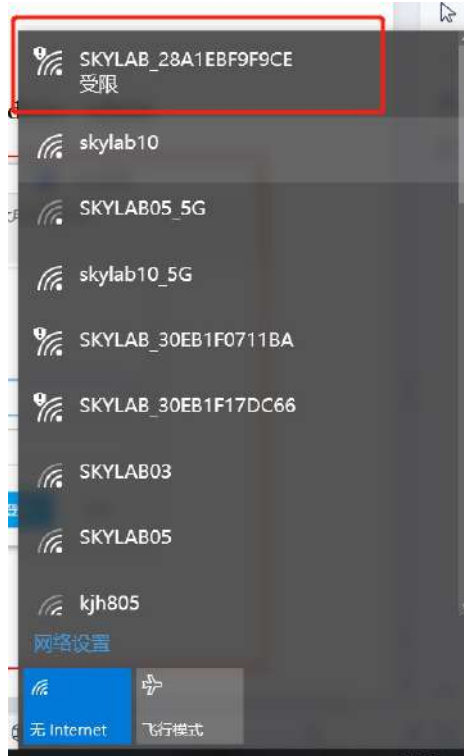


Figure 3-1 VDU2506D 主从基站不带屏/VDU2506D master and slave anchor do not have screens

4.2 数据输出/Data output

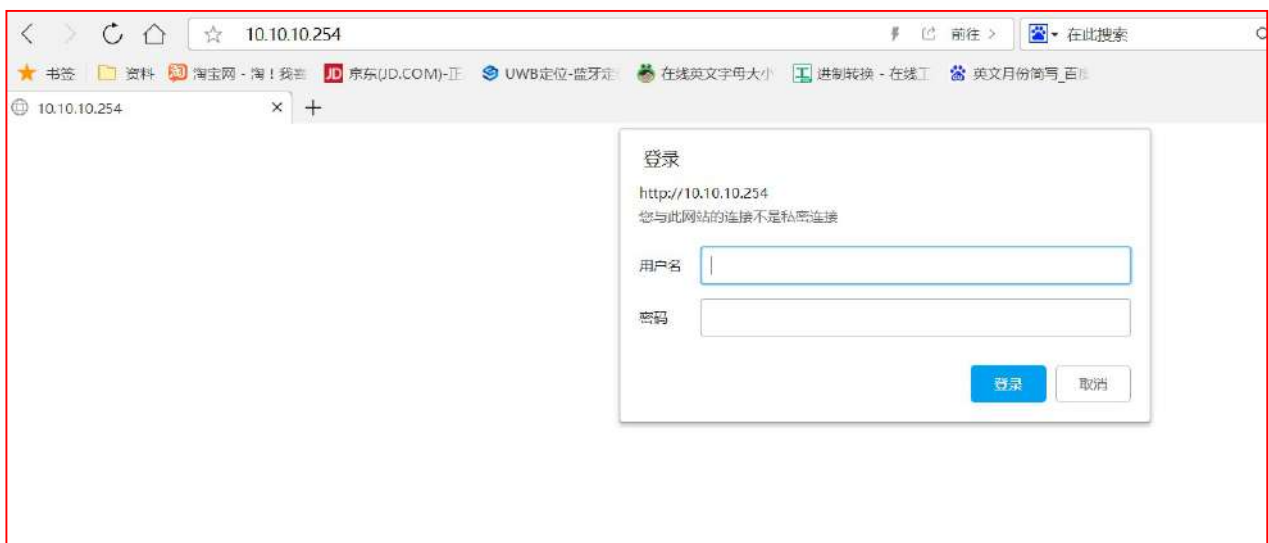
1.获取并连上主基地站的 WIFI;

Obtain and connect the WIFI of the main anchor;



2.输入默认地址<10.10.10.254>, 登入到 web 界面设置相关的内容; 登入默认账号密码: admin、admin

Enter the default address <10.10.10.254>, login to the web interface to set relevant content; Log in the default account password: admin, admin



3.设置推送的 IP 地址和端口，如果是局域网就设置跟本 IP 段一样的，如果推送云端就让路由器接入以太网。

Set the IP address and port of the push. If it is a LAN, set the same IP segment as this one. If it is pushed to the cloud, let the router access Ethernet.



4.数据推送如下:

Data push is as follows:

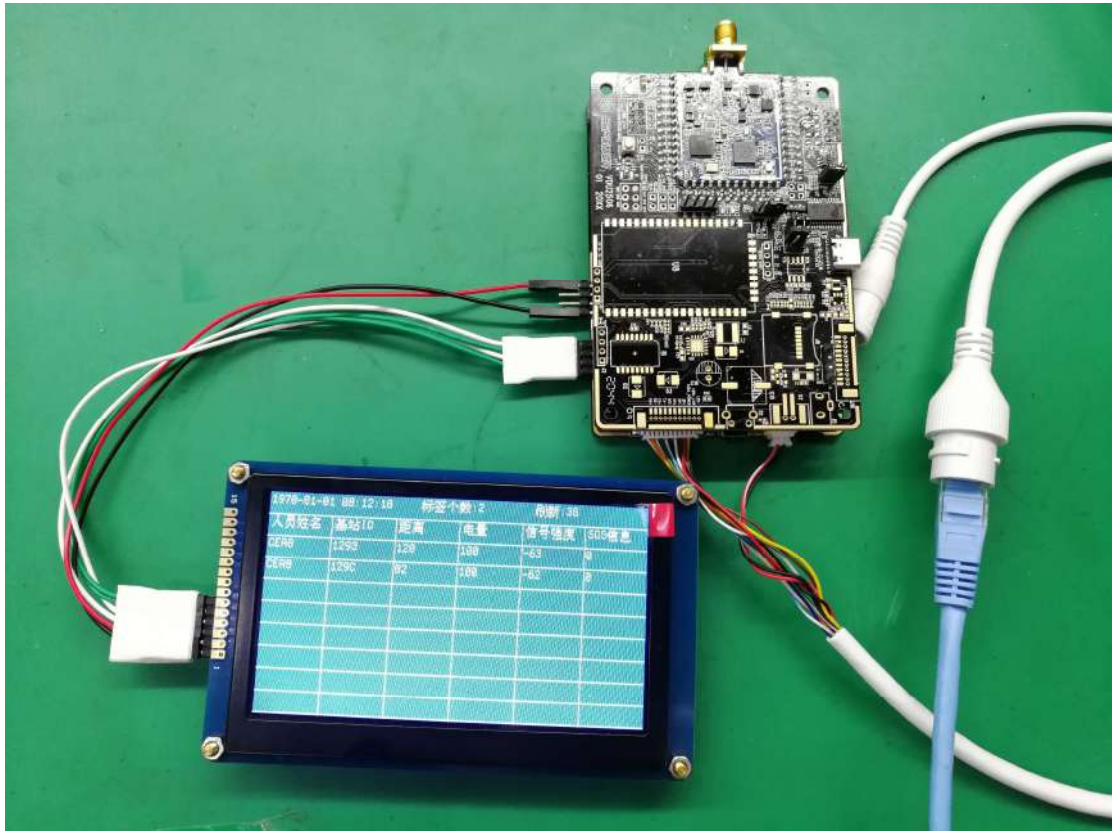


5 屏幕数据输出/Screen data output

5.1 接线/Wiring

两种供电方式：①5V 直流供电，电流 1A 以上；②POE 供电；下图为 POE 供电

Two kinds of power supply: (1) 5V DC power supply, current 1A above;(2) POE power supply;The following figure shows POE power supply:



VDU2506D 双基站连接 SPI 屏幕的插针从上到下线序为：

The pin sequence of VDU2506D Dual anchor connected to SPI screen from top to bottom is:

5V（电源），NC，NC，GND（地），CS（片选），CLK（时钟），MISO（输出），MOSI（输入）
5V (power), NC, NC, GND (ground), CS (chip selection), CLK (clock), MISO (output), MOSI (input)

SPI 屏幕的排针从上往下线序为：

The sequence of the SPI screen from top to bottom is:

CLK（时钟），SDI（输入），SDO（输出），CS（片选），5V（电源），GND（地）

CLK (clock), SDI (input), SDO (output), CS (chip selection), 5V (power supply), GND (ground)

5.2 数据输出/Data output

显示数据如下:

The data shown are as follows:



数据解析/Data analysis:

人员名称: 标签的 ID;

Name of person: ID of The tag;

基站 ID: 基站本身的 ID, 本设备为主基站和从基站, 所以有两个 ID 存在;

Base station ID: the ID of the base station itself, the main anchor and the slave anchor of the equipment, so there are two IDs;

距离: 基站与标签的距离;

Distance: the distance between the anchor and the Tag;

电量: 标签的电量;

Power: power of the tag;

信号强度: 标签的信号强度;

Signal strength: the signal strength of the Tag;

SOS 信息: 报警信息; 显示 0 时未触发报警; 显示 1 时触发报警, 当前报警行列会置顶且显示红色高亮;

SOS information: alarm information; When 0 is displayed, the alarm is not triggered; When 1 is displayed, the alarm will be triggered. The current alarm line will be placed at the top and displayed in red highlighting.

6 联系方式/Contact

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