Social Distancing Bracelet B100

User Manual

1. Introduction to Social Distance Bracelet

1.1 Introduction

System is a set of ranging system based on Ultra-Wideband Technology, which has the characteristics of high precision, large capacity, strong multi-path resistance and low power consumption.

Bracelets worn on the person consistently monitor the distance to the surrounding Bracelets. When the distance is less than the safe value, an alarm signal will be generated immediately. The sound and light alarm reminds to prevent the person from being too close and reduce the risk of virus spreading.

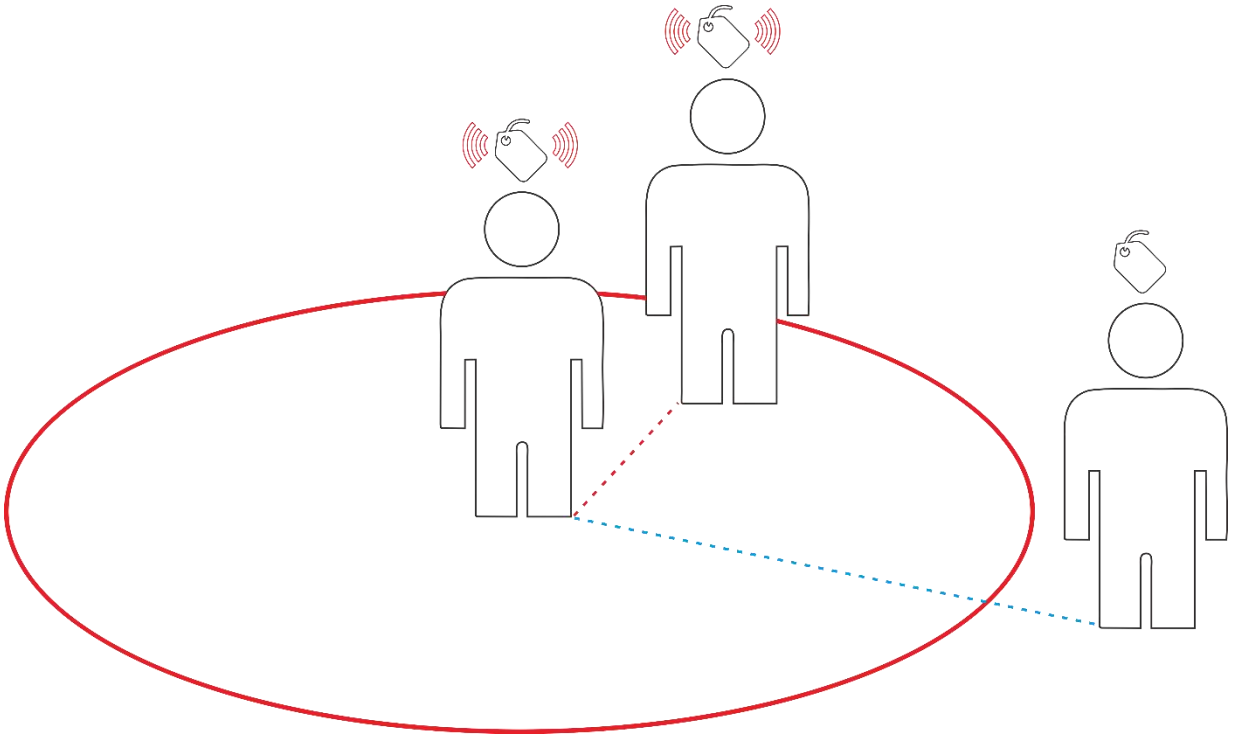


Figure 1-1 Schematic diagram of application

1.2 Exterior

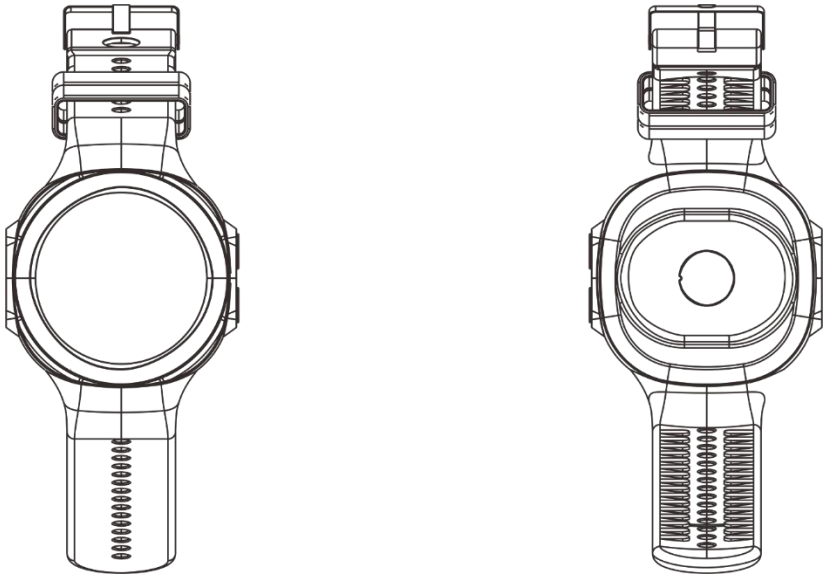


Figure 1-2 Front/Back views of Bracelet

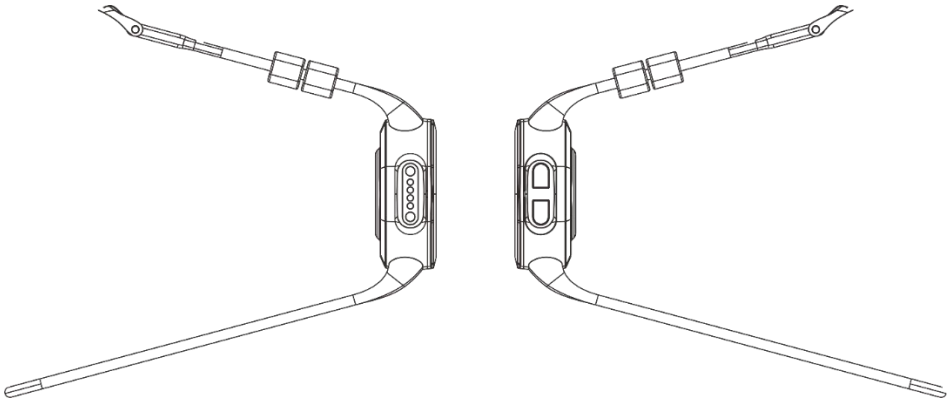


Figure 1-3 Left/Right views of Bracelet

1.3 Product List

The product list is shown in the figure1-4. From left to right, there are the Bracelet, charger, charging cable.

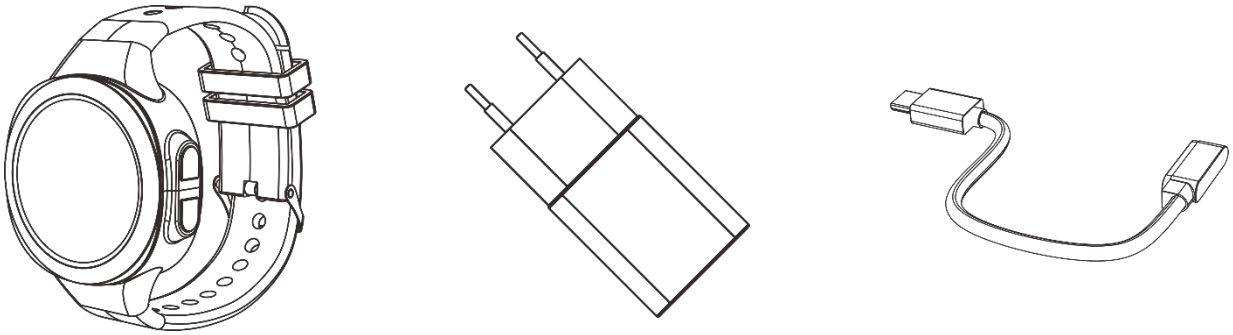


Figure1-4 Product list

1.4 Specification

Bracelet Specifications

Ranging Accuracy: 10cm
Dimensions: 52×52×20mm
Charge/Power Interface: pogo pin-4 (with magnetism)
Charging Time: ≤2h
Maximum Battery Life: ≥11h
Weight: ≤85g
Battery Type: Lithium Polymer Battery
Battery Level: 800mAh
Protection Level: IP68

Working Temperature: -20℃~60℃

Storage Temperature: -20℃~85℃

Working Humidity: 0~95% non-condensing

2. User Instructions

2.1 Product Components

As shown in the figure below, the Bracelet provides two buttons, indicator lights and charging interface.

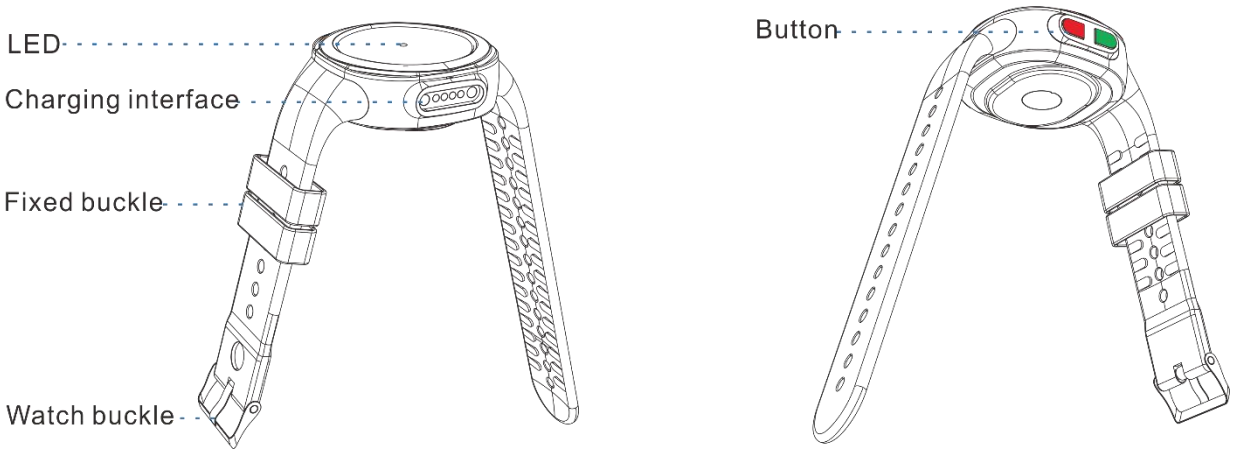


Figure 2-1 Product components

2.2 Wearing Method

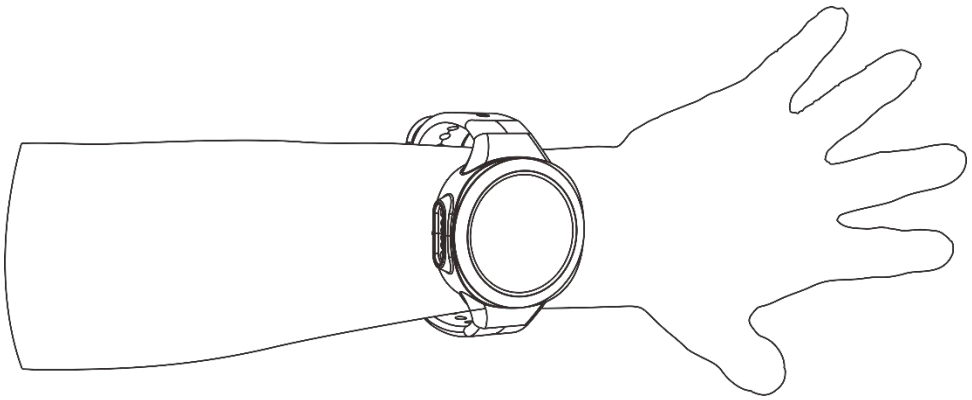
2.2.1 Schematic Diagram of Wearing

Figure 2-2 Front view

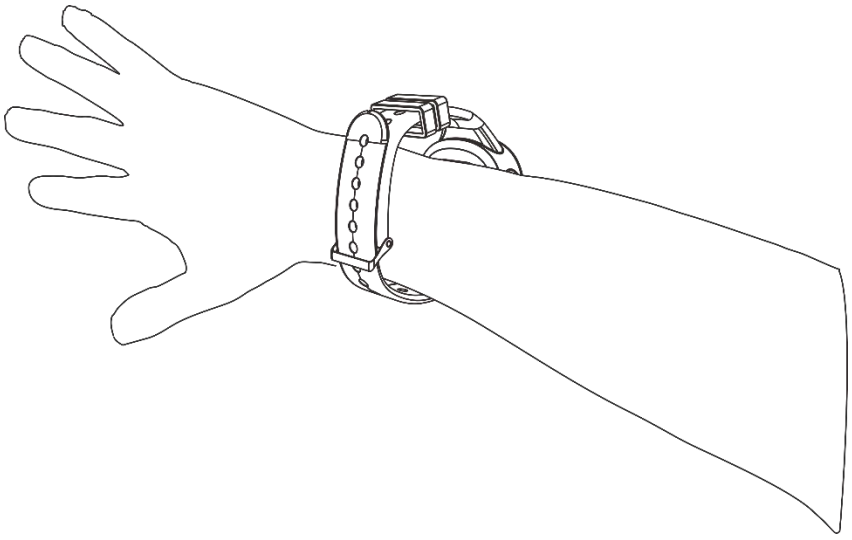
Figure 2-3 Back view

2.2.2 Wearing Method

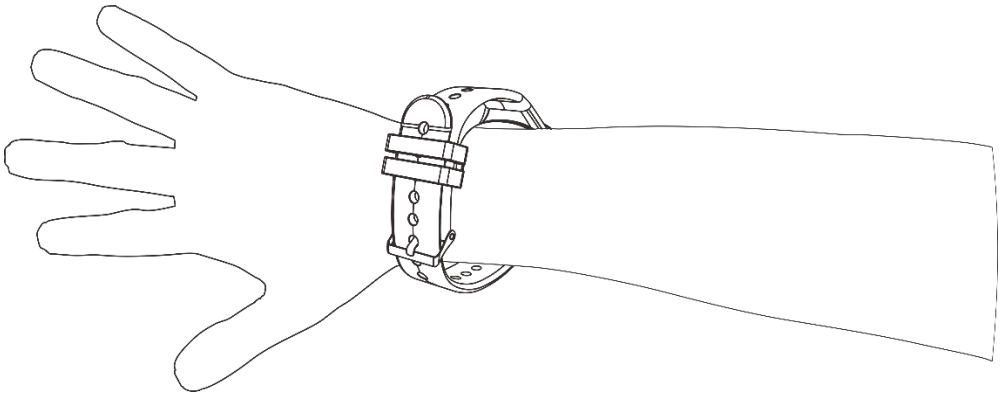
1. Braceletband through arm



❷ Braceletband passes through the metal buckle, then make the Braceletband adjusted to the proper position. And the buckle needle passes through the Braceletband hole



❸ After the buckle needle passes through the Braceletband, fasten the buckle with the fixing ring



2.3 Charging Instructions

2.3.1 Charging with Charger

Use the charger and charging cable to complete the charging, as shown in the figure below.

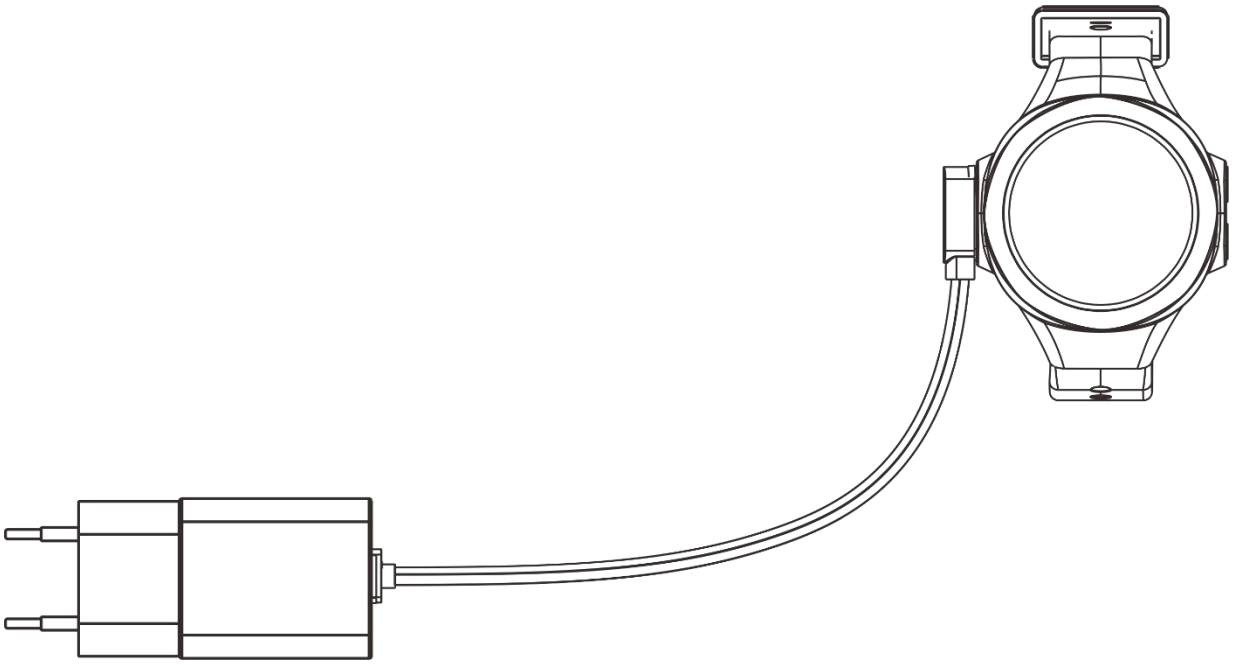


Figure2-4 Schematic diagram of charging

2.4 Interactive Instructions

2.4.1 Operating Instructions

- Power On: If product is in the power-off state, press and hold the right(red) button for more than 3 seconds. When you feel the vibration and see the LED flash, it means product is power-on successfully.
- Power Off: If product is in the power-on state, press and hold the right(red) button for more than 3 seconds. When you feel the vibration and see the LED flash, it means product is power-off successfully.
- Power Test: Press the left(green) button (less than 1s) and release. If the product still has power, the vibrator will work and the LED flash; If there is no power left, there will be no response.

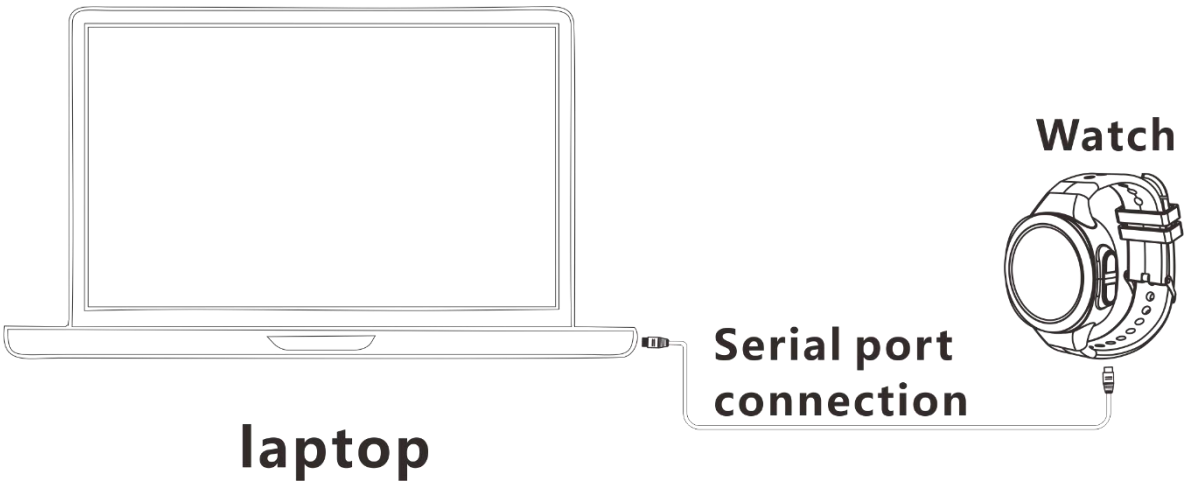
2.4.2 Alarm Instructions

- Warning: When the distance between the Bracelets is less than the safe distance, the Bracelets will continue vibrating and the red LED will flash until the distance between t Bracelets is greater than the safe distance.
- Working Status Indicator: When the Bracelet is working normally, the LED flashes every 2s.
- Charging: The LED flashes when the Bracelet is charging, and the LED light is always on when it is fully charged.

3. Configuration Tool (This function must be used with multiple base stations)

3.1 Serial Connection

The connection diagram is as follows:



The serial port baud rate is selected as 460800, as shown in Figure 3-1.

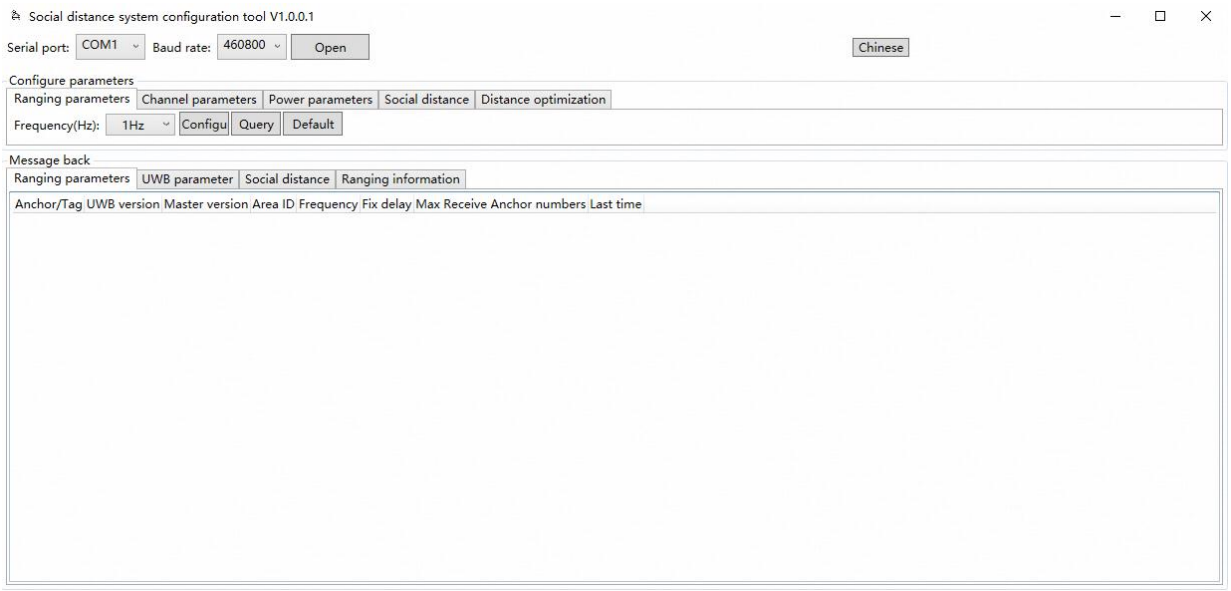


Figure 3-1 Serial Port Configuration

3.2 Default Parameters

Table 1 system default parameters

Default parameters and their range of values			
Defaults			range
Frequency	Frequency	1Hz	0.05-50Hz
Channel	Channel	2	1/2/3/4
power	External	bypass	Enable/bypass
	Manual	Manual	Manual / intelligent
	Power value	1F1F1F1F	
Alarm Distance	Enable	Off	
	Alarm	1m	
Distance	Grade	L1	L0/L1/L2/L3 (L3

3.3 Configuration Instructions

Before configuring parameters, you need to select the Bracelet to be configured in the [Message back] list.

[Message back] list operation: Selected: left mouse button; Uncheck:[Ctrl]+left mouse button.

3.3.1 Social Distance Parameters Set-up

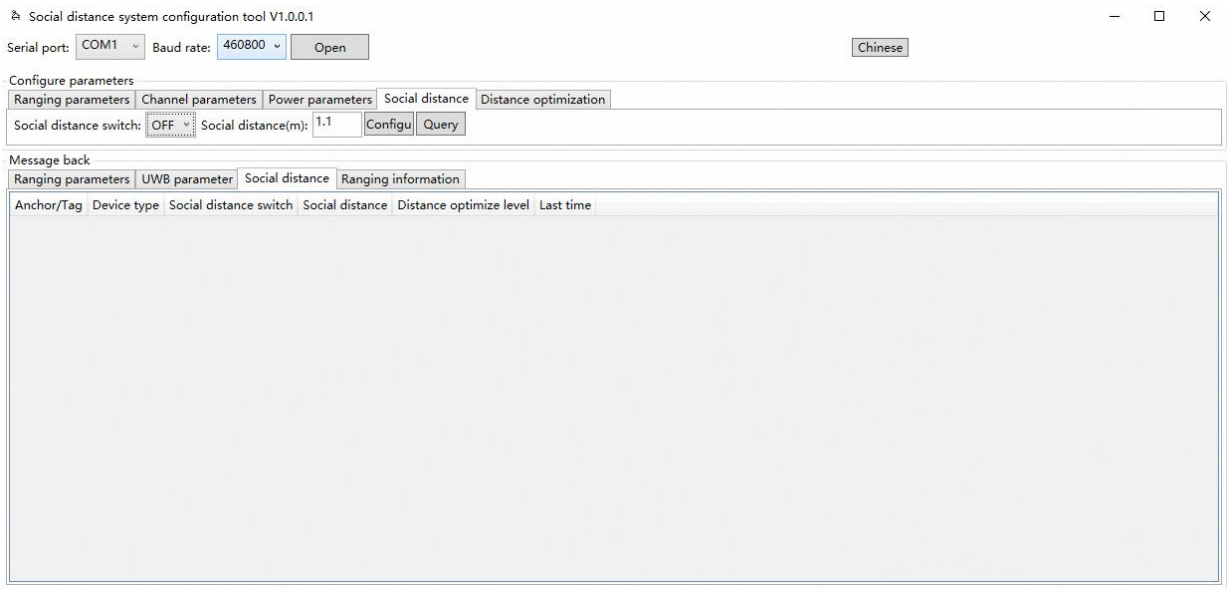


Figure 3-2 safe distance parameter configuration

You can enter the value (precise to decimal) for the social distance. After clicking the [Configure], you can check the parameters just configured in the [Message back] panel. You can also use the [Query] button to directly query the parameters of the current Bracelet.

The configuration above is only for [Message back – Social distance] selected.

3.3.2 Configuring Ranging Parameters

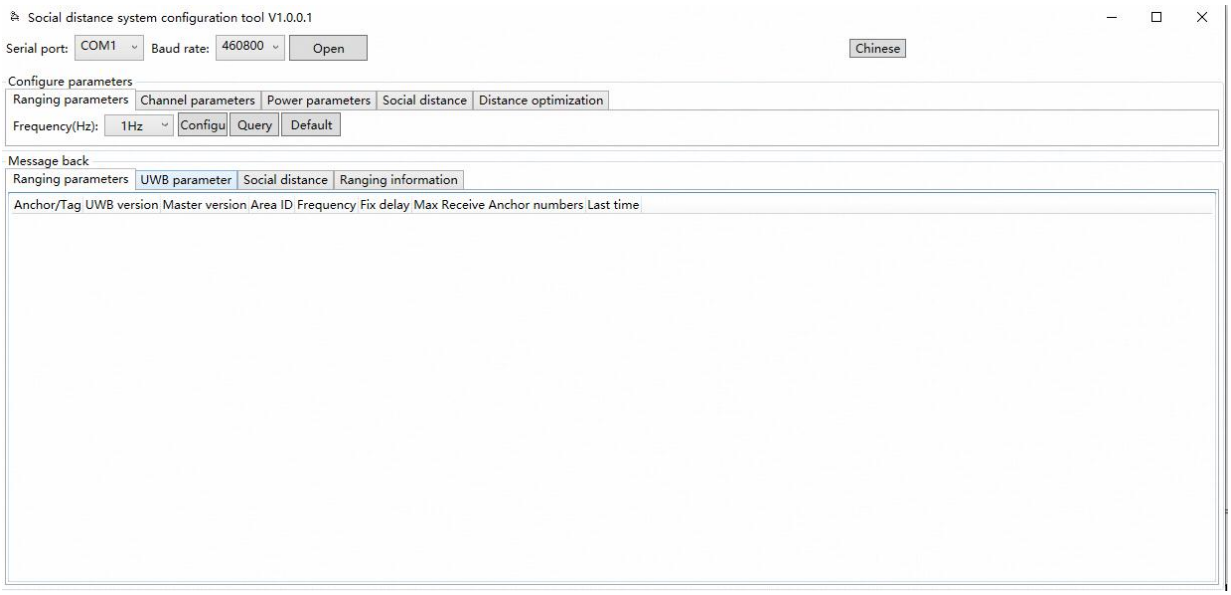


Figure3-3 Ranging Parameter Configuration

◆ Parameter Description

Frequency: 1 Hz means that the ranging request is sent every 1000ms.

◆ Instructions

[Configuration] button: Configure the current input parameters to the Bracelet;

[Query] button: View the configuration parameters of the selected Bracelet;

[Restore Default] button: Restore to the initialization status parameter.

Configuration above is only effective for [Message back - ranging parameter] selected Bracelet.

3.3.3 Configuring Channel Parameters

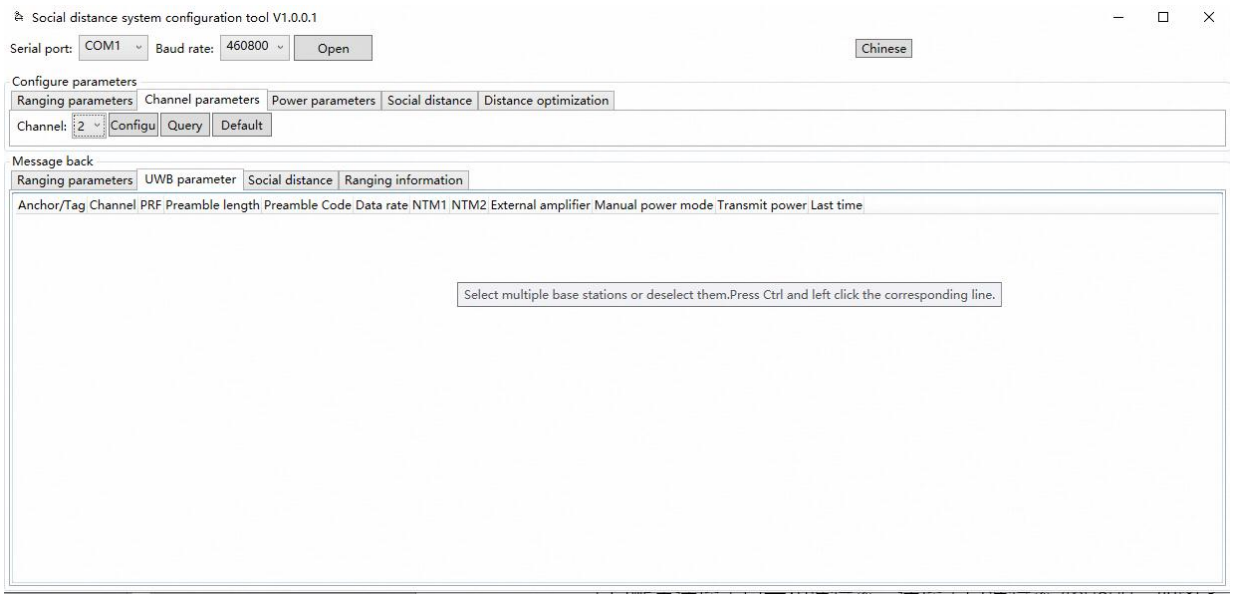


Figure3-4 channel parameters

◆ Parameter Description

Channel: different channels represent different wireless signal frequencies; Note that there is no ranging between Bracelets in different channels.

◆ Instructions

[Configuration] button: Configure the currently input parameters to the Bracelet;

[Query] button: View the configuration parameters of the current Bracelet;

[Restore Default] button: Restore to the initialization status.

Configuration above is only effective for [Message back - UWB parameters] selected Bracelet. It is recommended to use the default parameters.

3.3.4 Configuring Power Parameters

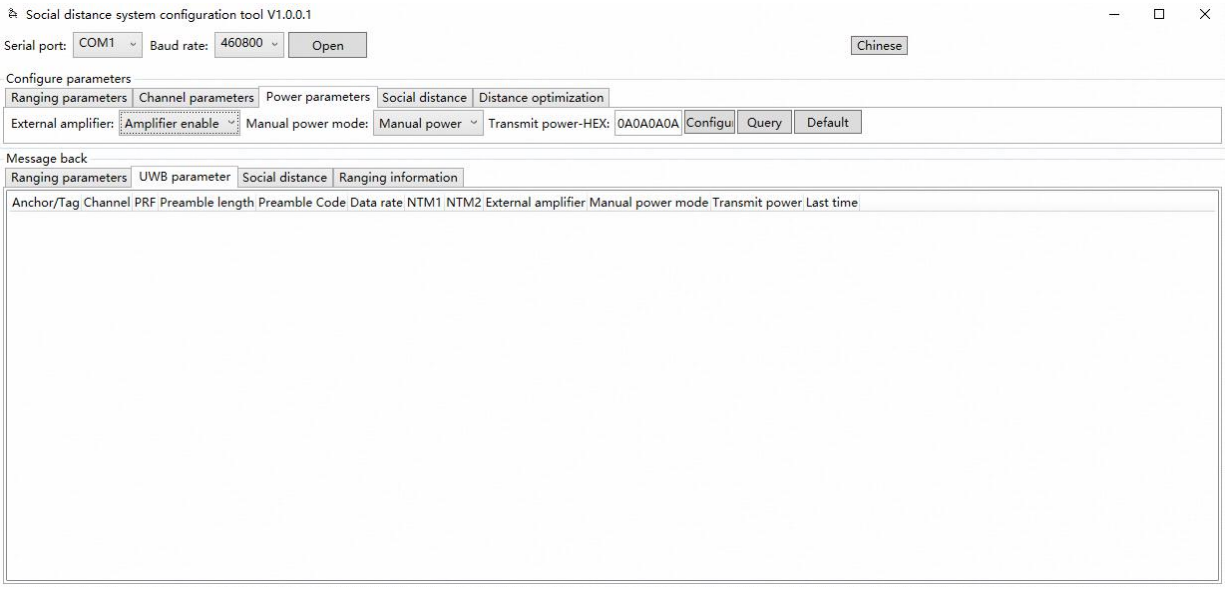


Figure3-5 Power Configuration

As shown in Figure 3-5, the UWB power parameters include external enable power amplifier, manual power mode, and power consumption value.

Configure the UWB power parameters according to actual needs.

Configuration above is only effective for [Message back - UWB parameters] selected Bracelet. It is recommended to use the default parameters.

3.3.5 Distance Optimization Level Configuration

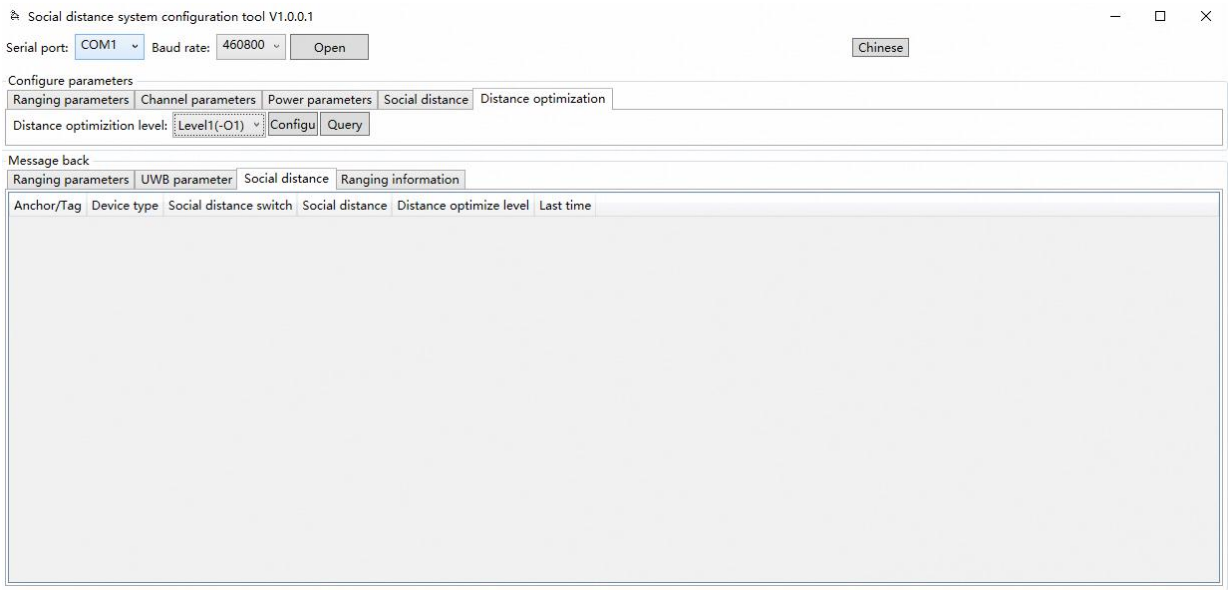


Figure 3-6 Distance optimization level configuration

◆ Parameter Description

Distance optimization level: The distance optimization level is divided into 4 levels. The default level is 1. The higher the optimization level, the better the distance optimization effect; Note that the higher the optimization level, the greater the signal delay will be.

◆ Instructions

[Configuration]: Configure the distance optimization level parameter.

[Query]: Query the distance optimization level parameter.

Configuration above is only effective for [Message back – Social distance] selected Bracelet.

3.3.6 Ranging Information View

In [Message back], select [Ranging Information], as shown in Figure 3-7, right click, two options will appear. You can choose clear or save. Clear data will clear all data, save data will save the data of the selected item.

Figure3-7 Ranging Information View