深圳天圆数码科技有限公司
TZONE DIGITAL TECHNOLOGY CO..LTD

TZ-BT05

--- User Manual v1.4

1 Product Overview

TZ-BT05 is a low power consumption Bluetooth data logger, using the latest Bluetooth 4.0 technology, Nordic NRF51822 chip development and design, It can collect temperature of the surrounding environment and recording and preservation of historical data, can store up to 12000 pieces temperature data, Bluetooth 4.0 can be downloaded over the phone APP,to achieve full stage real-time temperature recording. It has the small size, light weight, easy to carry, high accuracy and other characteristics, widely used in various other areas of refrigerated storage and transport, archives, experimental (test) rooms, museums and other temperature testing.

2 Applications

1. Refrigerated storage and transportation;
2. Archives;
3. Experimental (test) rooms;
4. Workshop;
5. Museums;
6. Pharmaceutical environment;
7. Fresh transport.

3 Product Features

1. The high precision and high stability;
2. Bluetooth 4.0;
3. The long-distance wireless communication;
4. Built-in high sensitivity NTC temperature sensor;
5. Real-time display temperature;
6. Can store 12000 temperature data;
7. You can set the alarm temperature range;
8. The temperature graph can be automatically generated in the APP;
9. Can choose time to query data, the stored data can be saved in history;
10. Temperature data can be generate a PDF/CSV report and sent to specified email;
11. By pairing Bluetooth printer to print the data report;
12. Can by OTA update version.

4 Product specification

Item	Specification
Frequency signal transmission	2.400 - 2.4835GHz
Protocol	Bluetooth 4.0
Modulation	GFSK
Transmission interval	2S
Internal battery	CR2450,550mAh/3V
Output power	-4dBm, adjustable
Maximum transmission distance	55 meters（-4dbm）
Storage	can store 12000 pieces data
Battery life	1 year (depends on working mode,can replace battery)
Net weight	25g
Dimension	50mm*35mm*15mm
Temperature detecting range	-25℃~+60℃
Temperature detecting accuracy	±0.5℃(-20℃~+40℃),±1℃(Other temperature)

5 Caution

1,Away from metal objects, not placed in a sealed metal and small space;
2,Note that the distance between the TZ-BT05 and the receiver to ensure the reception accuracy;
3, Away from water and corrosive materials.

6 Switch Instructions

Device status	Operation	LED light instruction	Instructions
Turn on	Under unopened state, long press button for 3 seconds	Flashes continuous 3s on, then flashes once every 10 seconds	Data logger starts, start the real-time temperature record
Turn off	Open state, long press the button for 3 seconds	Flashes 5 times, then off	Close data logger, keep record of temperature data

7 APP software

'Temperature data logger' is a free mobile applications which provided by our company to the users, can connect the BT05 through the Bluetooth of the mobile devices and do the settings, data transmission, recording, synchronization, send to email. Apply the Bluetooth BLE way, so you can use Android, IOS phone for temperature monitoring.

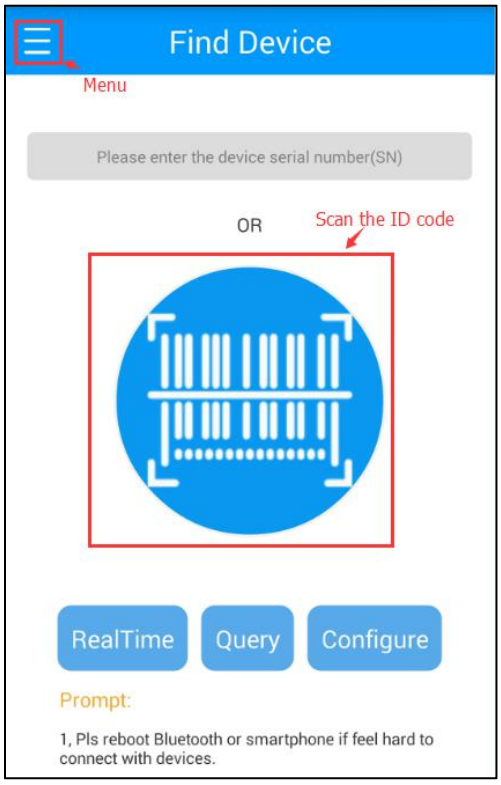
7.1 Android phone 'temperature data logger' App use.

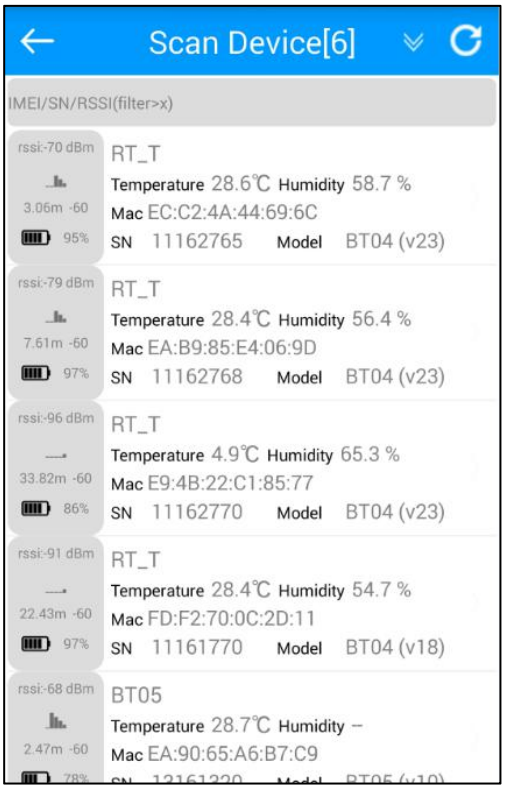
Client can download App by scan the QR code below:

Open the 'Temperature data logger' software, the first to see is the scan code interface; there are three interface buttons, they are 'real time data', 'data extraction', 'Configure Devices'; and the upper-left corner of the menu button. Whether you need to enter which interface of this three interface, devices are required SN code, SN code can be scanned,entered directly using the phone keypad,also can directly click Real time/Query/Configure and see the device list:

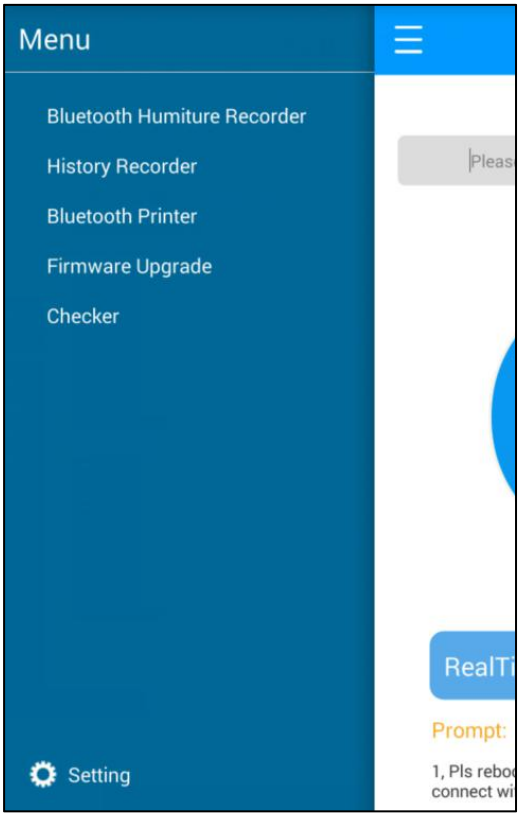
Note: 1. One mobile phone APP only can scan 300 devces;

2. The mobile phone size must more than 4.7 and the resolution must more than 1280*720

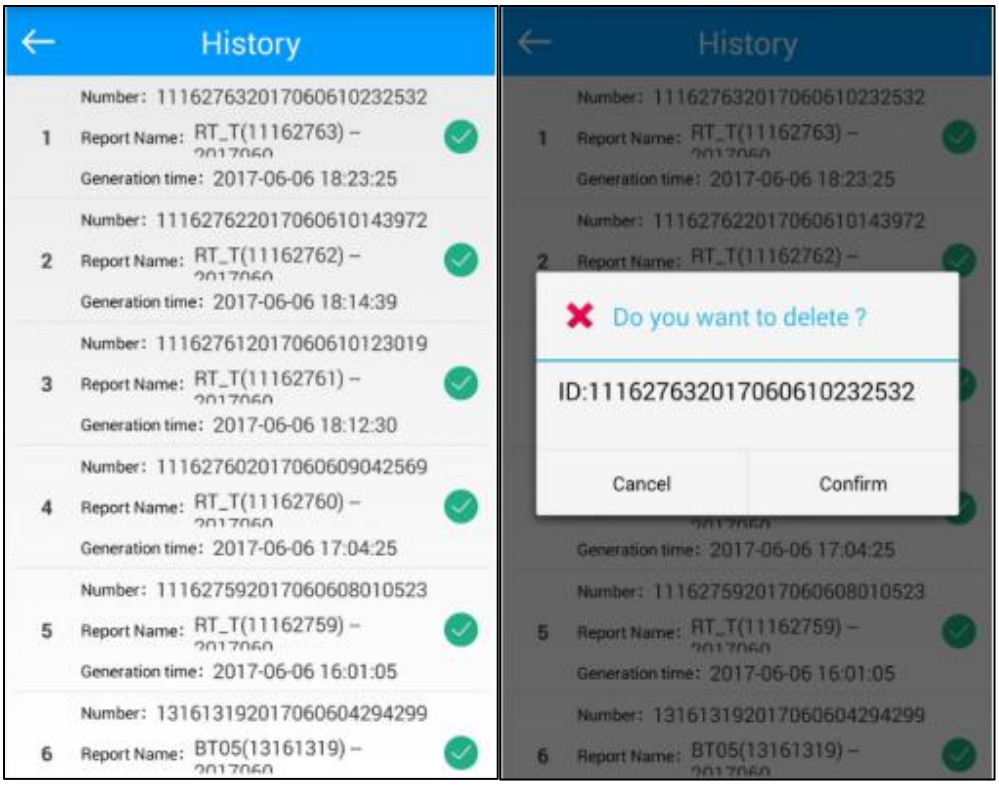




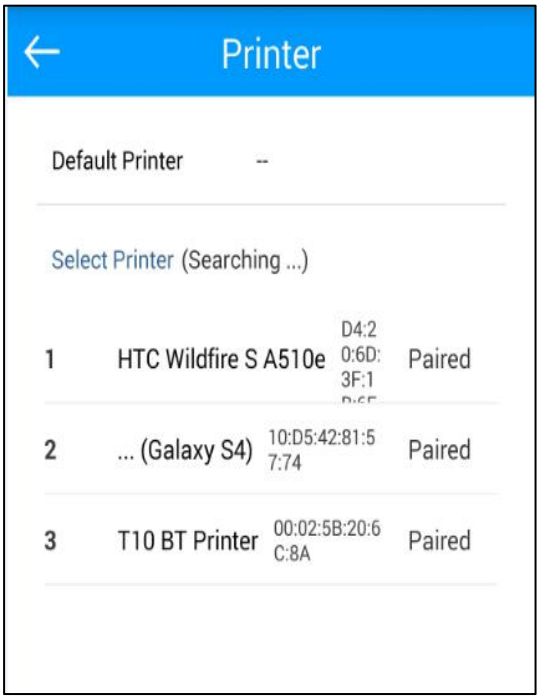
Press the Menu key to query historical data extraction, pairing a Bluetooth printer, update the firmware by OTA and inspection equipment, as shown below:



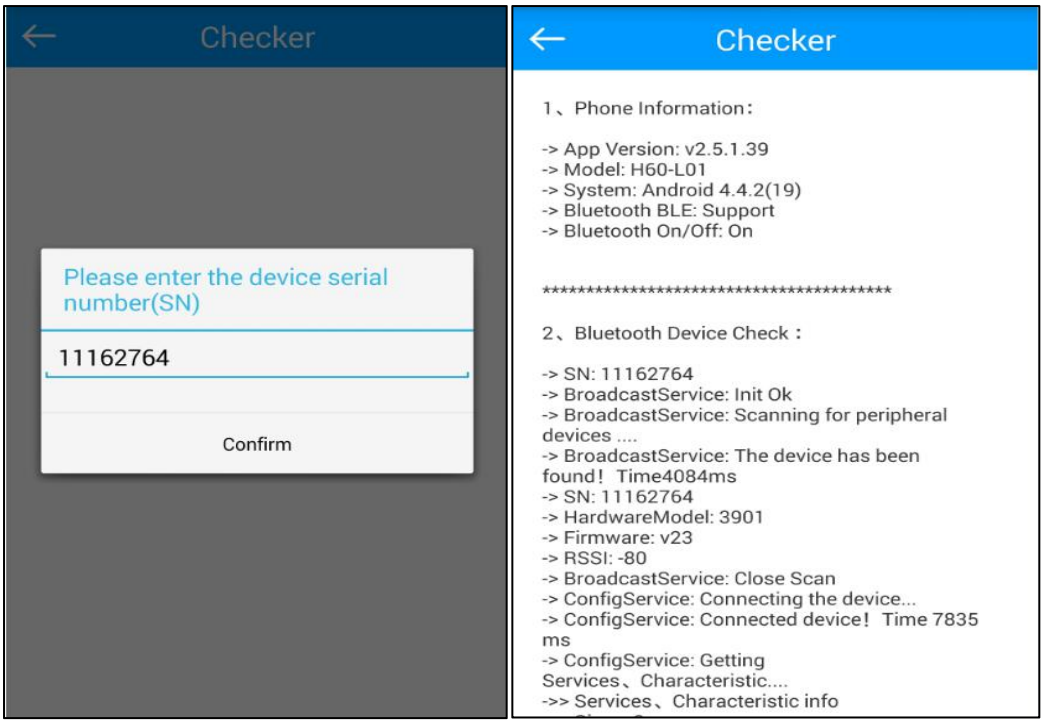
Historical records which stores all the history report,you can delete the report when you press the report and hold on for a while.



Select the matching printer, print history report data:



Inspection tool can check the phone and machine information and the connection.

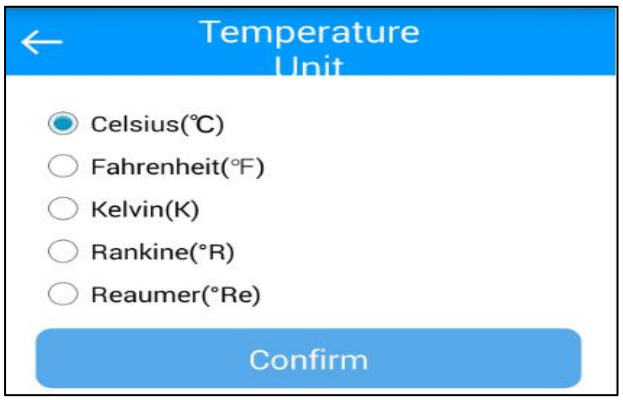


Click on the lower left corner of the set key, can see the software Settings, the system time zone, temperature unit, download the firmware update and checker.

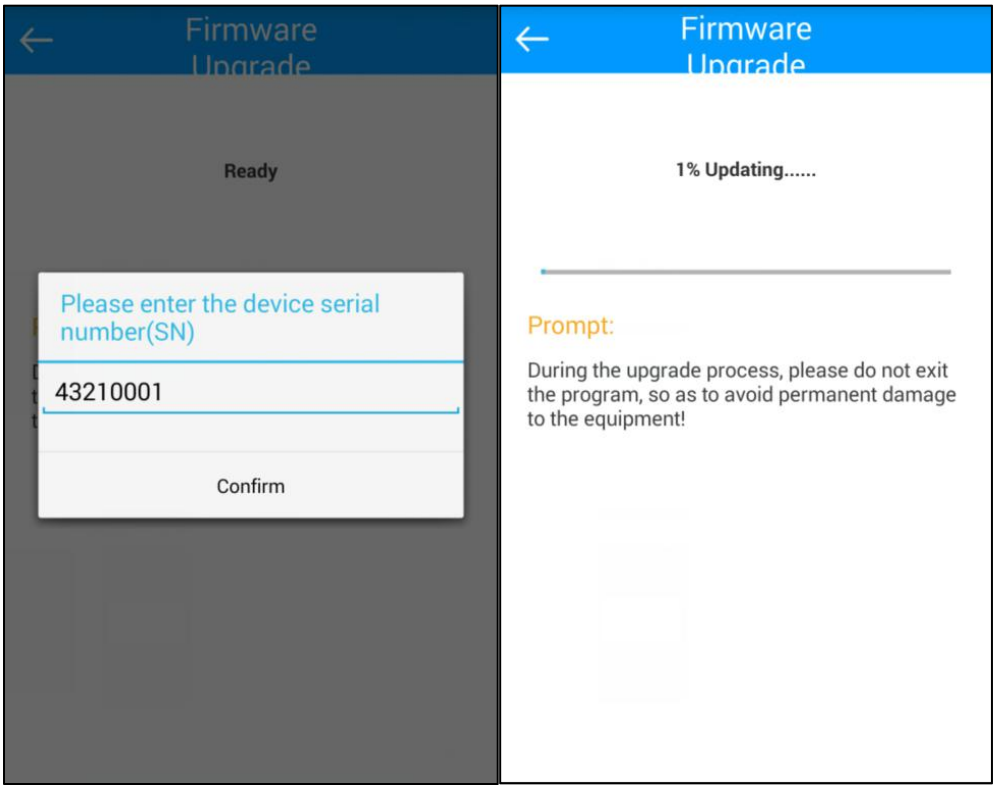
Can be set up mobile phone connection timeout time machine:

Can set the local time zone, the PDF/CSV report will become the current time:

Can set the temperature of the unit you need:

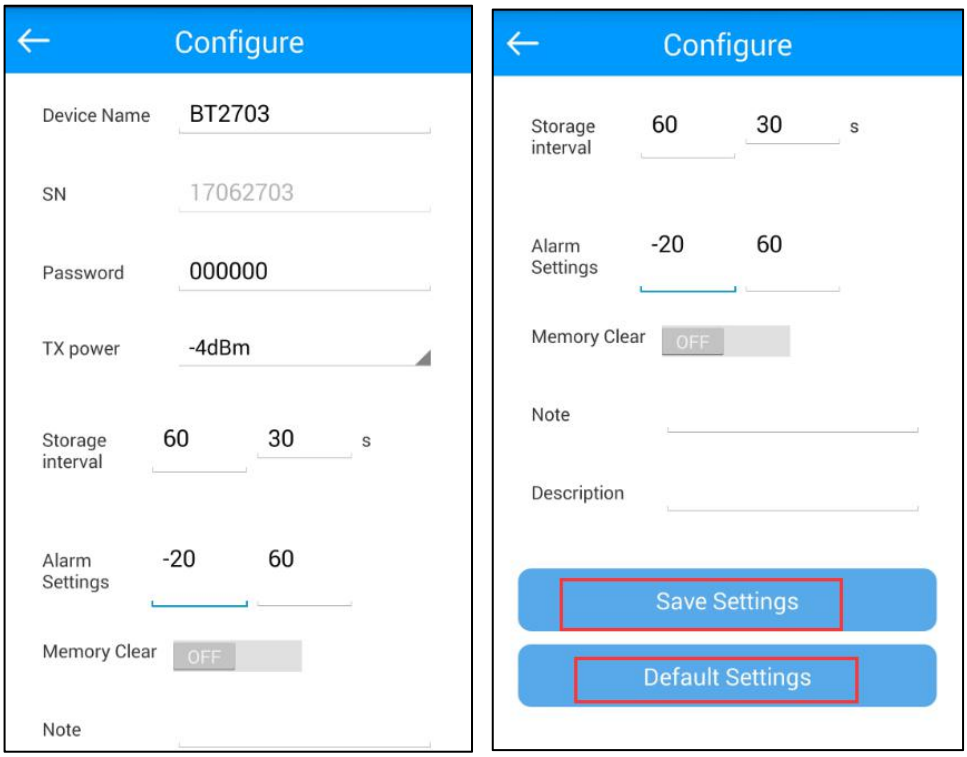


BT05_V11 and above version have OTA function, choose the firmware update, the latest version on the server can be detected and downloaded to mobile phones, then choose the need to update he machine ID, input the password, you can update to the latest version, when update is completed you will be prompted to update successful.



7.1.1 Configure logger

After entering the SN code or scanning device , or directly click ‘Configure Devices’ and select the device, on the home page, or enter the configuration interface, as shown below:



The interface can be configured BT05 password(6 byte), if the transmit power(-30~4dbm), Normal/Alarm storage space(10~3600s), and the upper and lower temperature limits(-25~60° C), empty stored data .The appropriate value of the transmit power can be selected in the drop-down list; storage interval and alarm settings directly enter numbers according to individual needs; memory is cleared, you can choose to open or close(open will clear historical data). According to individual requirements click Save Settings then can write in, if save successfully, will be prompted the ‘Save Configuration successful.’the‘Default Setting’ button will reset the device to default.

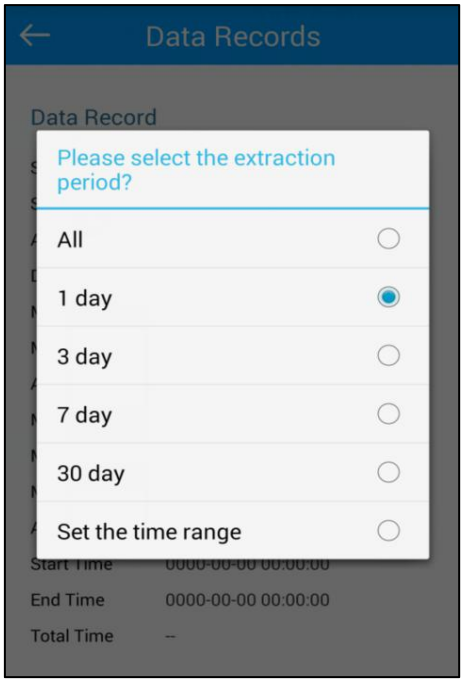
Note: the above BT05_V6 version can be set device name(no more than 7 byte), note and description(no more than 20byte),BT05_V11 and above version have OTA function, BT05_V12 and above versions have selected time quick query data model.

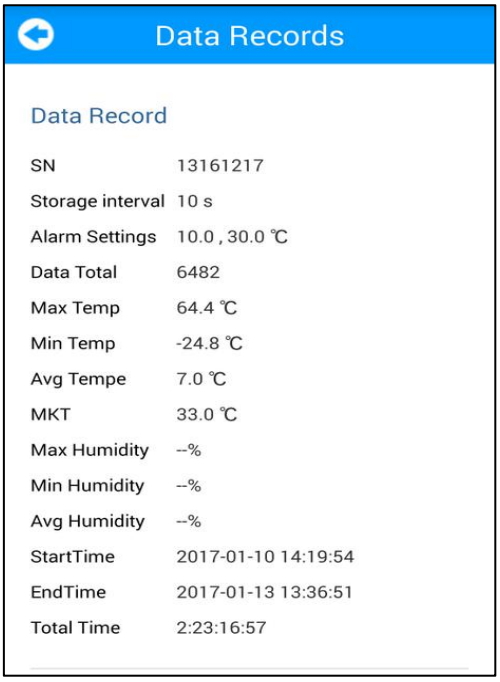
7.1.2 Real time data

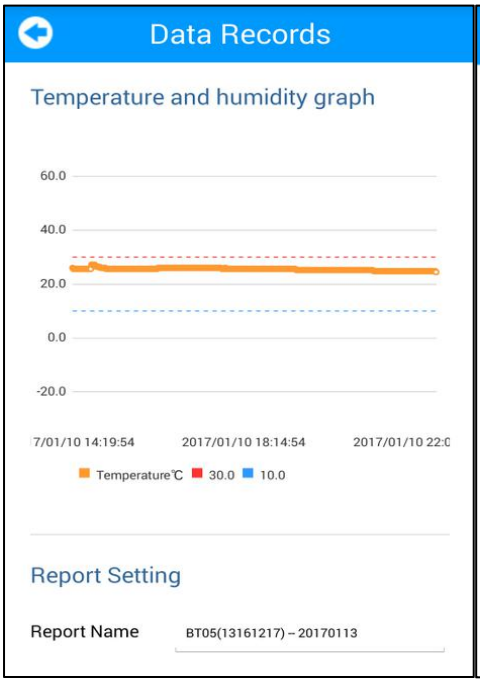
'Real time data' displays the device name,real-time temperature and power, the interface for viewing real-time temperature, if the temperature exceed the limits then the figure change to be red, or else black font, this interface does not provide editing function . As shown below:

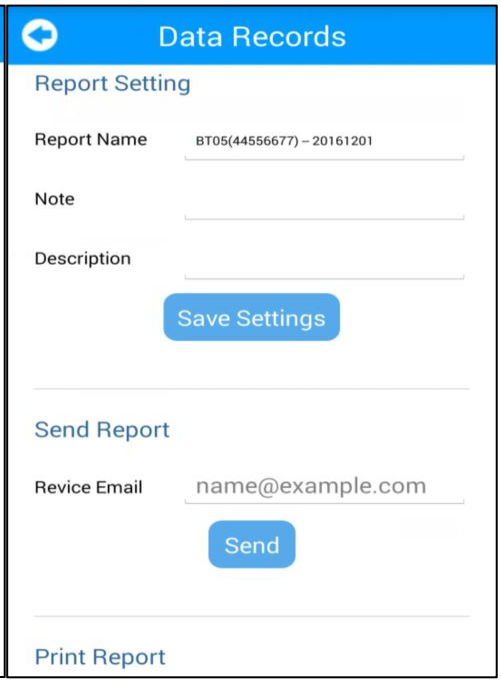
7.1.3 Query data

'Query Data' screen, can choose extraction time,(BT05_V12 and above versions have this function), displays SN code,Storage interval,Alarm settings,the total number of data recorded ,the maximum/minimum/Avg/MKT temperature during recording, start time, end time, total time,temperature graph and Bluetooth printing, the interface is mainly used for reading temperature data recorded in a specific time period, the same as the historical record,the report includes data report, data record, temperature chart,set report,send report and print report,As shown below:



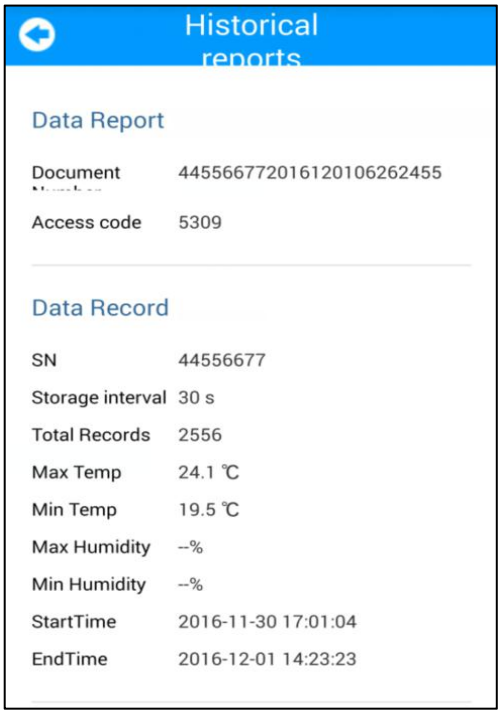




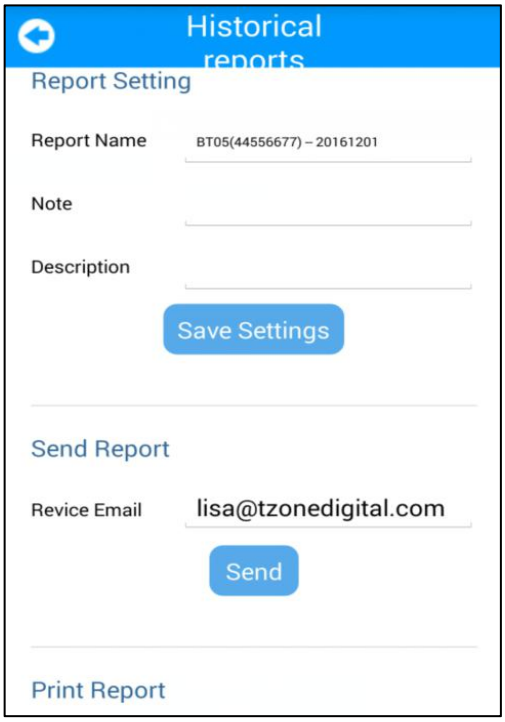


7.1.4 History record

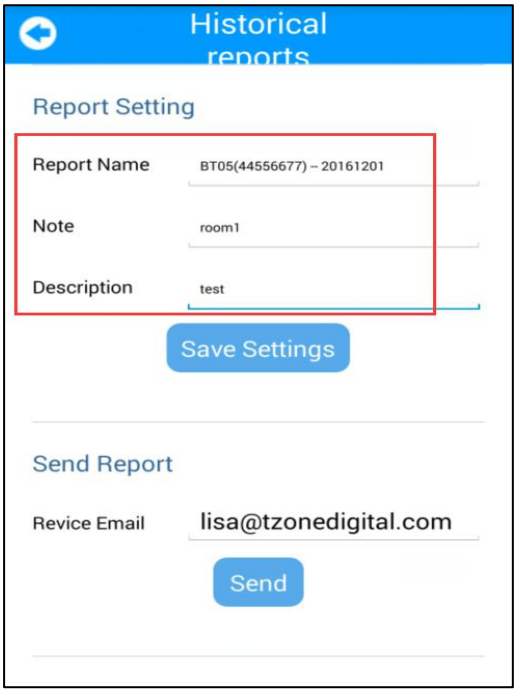
Every click on the "query data", the data will be stored in the historical data ,you can into the historical record, the report includes data report, data record, temperature chart,set report,send report and print report, as shown below:



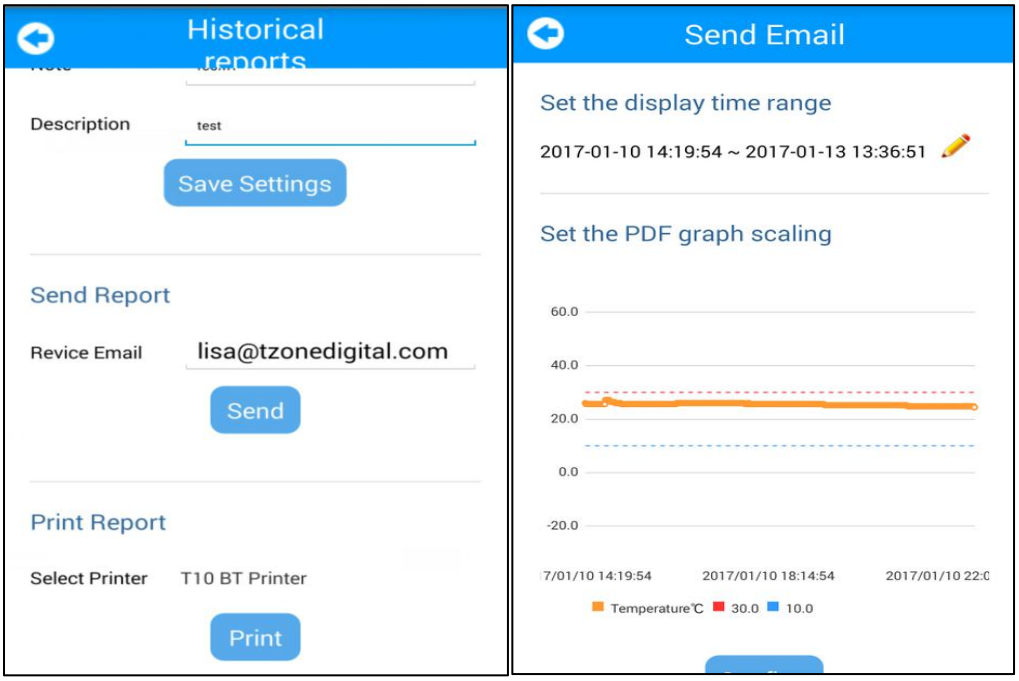
Note: Red line: high temperature threshold,blue line: low temperature threshold

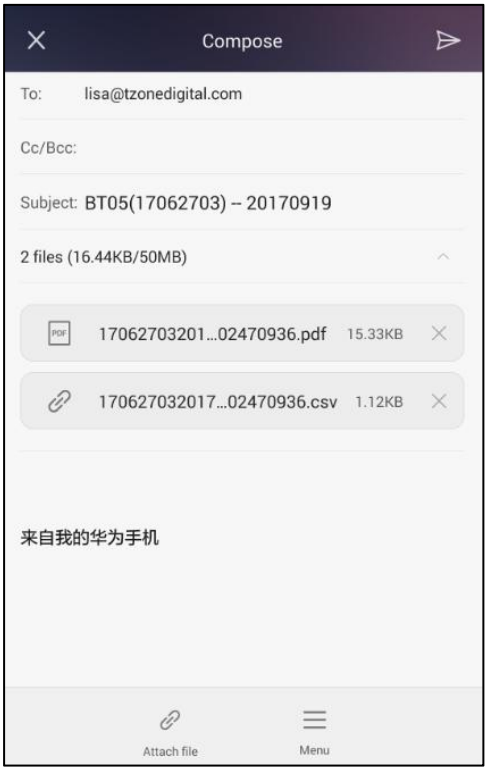


In the report Settings can be set up report name, comment and description,also can be directly set in configure logger, as shown below:

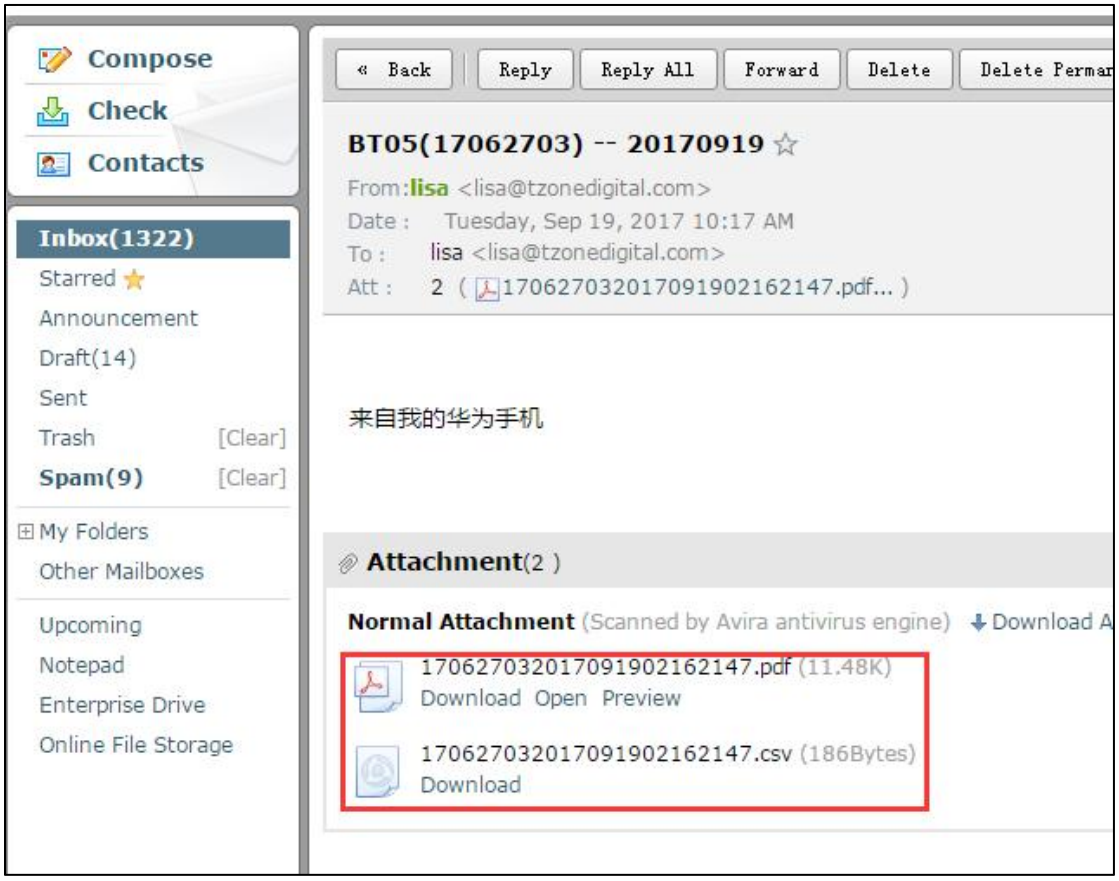


In “send report” can be set up to receive email, the first please set the email account on the mobile,click send,you can change the report start and end time and set the graph scaling,click confirm, it is will generate PDF/CSV files and into write email, you can input mail content, red box for sending, click it, the PDF/CSV report will be sent to the designated email,as shown below:





Can be in the specified mailbox to see to this email and generate PDF/CSV report,as shown below:



7.2 IOS system ‘temperature data logger’ App use.

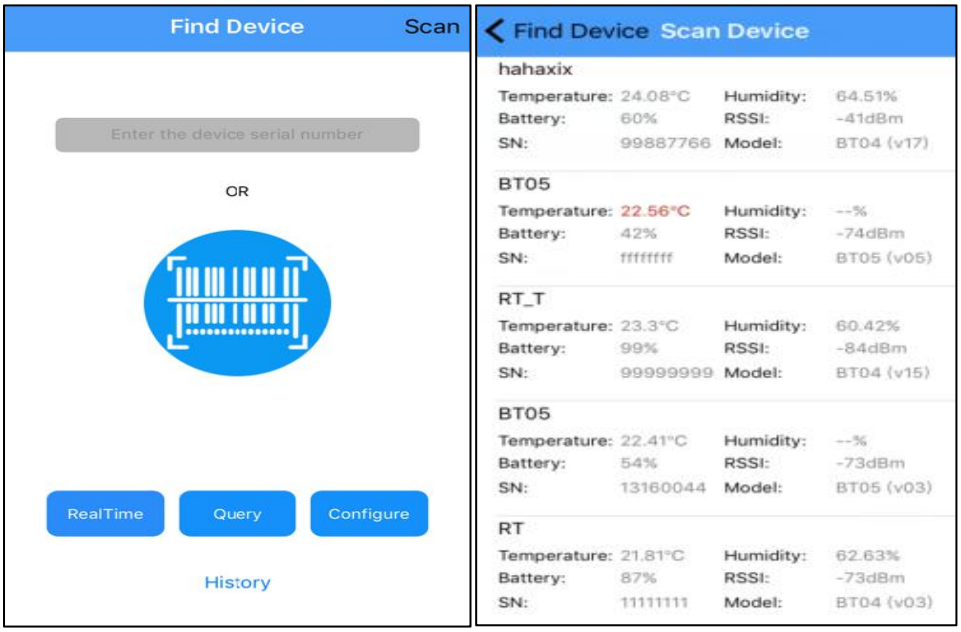
Client can download App by App Store :
Search: Humiture Recorder

Open the ‘Temperature data logger’ software, the first to see is the scan code interface; there are three interface buttons, they are ‘Real time’, ‘Query’, ‘Configure’; and the upper-right corner of the search button. Whether you need to enter which interface of this three interface, devices are required SN code, SN code can be scanned or entered directly using the phone keypad or also can directly see equipment list after clicking on search.

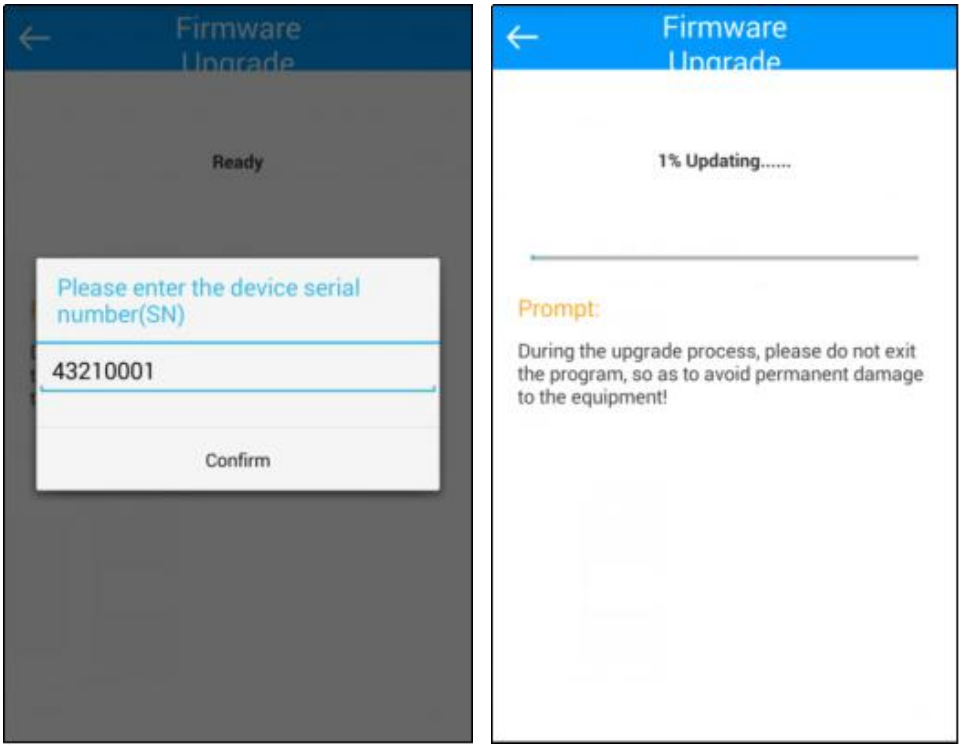
As shown below picture:

Note: 1. One mobile phone APP only can scan 300 devices;

2. The mobile phone size must more than 4.0 and more than the IPhone5 mobile phone,suggest that it is best to use the IPhone6 above, to ensure smooth operation



BT05_V11 and above version have OTA function, choose the firmware update, the Choose the firmware update, the latest version on the server can be detected and downloaded to mobile phones, then choose the need to update the machine ID, input the password, you can update to the latest version, when update is completed you will be prompted to update successful.



7.2.1 Configure logger

After entering the SN code or scanning device or clicking search on the home page,

will enter the configuration interface, as shown below:

‘Setting’ The interface can be configured BT05 transmit power, Normal/Alarm storage space, and the upper and lower temperature limits, empty stored data .The appropriate value of the transmit power can be selected in the drop-down list;storage interval and alarm settings directly enter numbers according to individual needs; memory is cleared, you can choose to open or close(open will clear historical data). According to individual requirements click Save Settings then can write in, if save successfully, will be prompted the ‘Save Configuration successful.

7.2.2 Real time data

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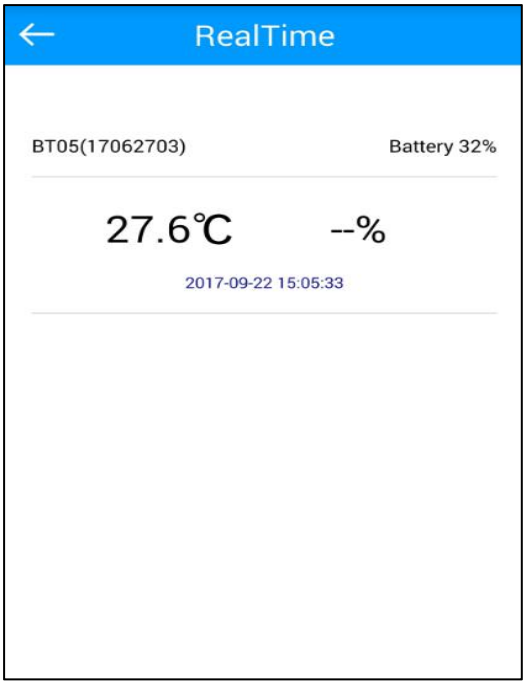
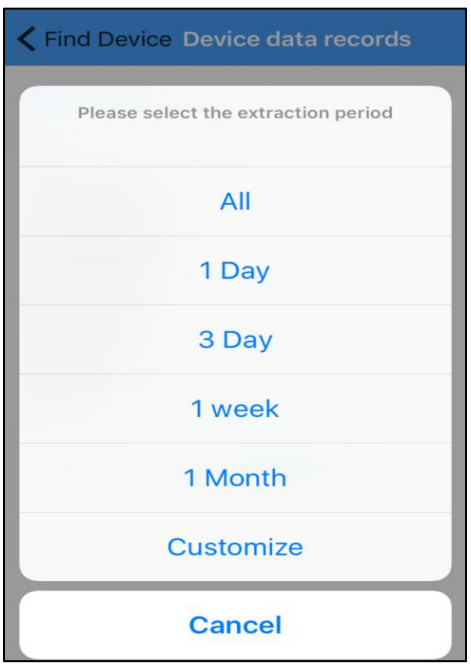
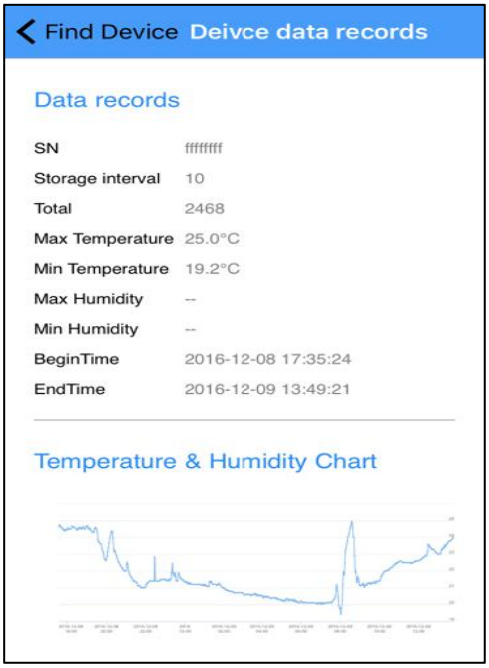
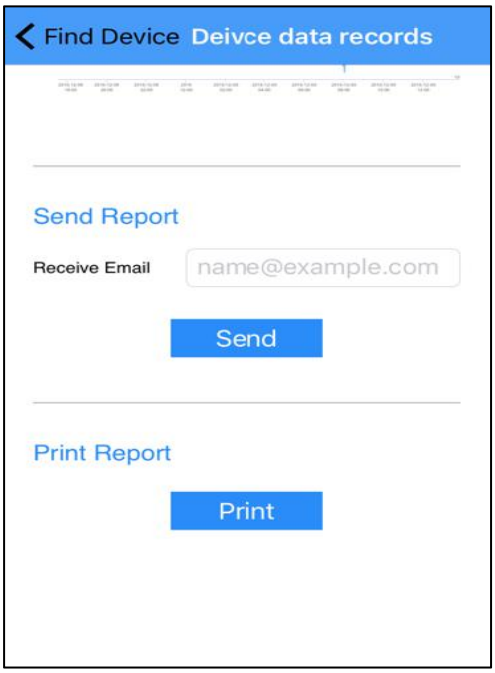


7.2.3 Query data

'Query Data' screen, can choose extraction time,(BT05_V12 and above versions have this function), displays SN code, Storage interval, the total number of data recorded ,the maximum and minimum temperature during recording, start time, end time, temperature chart ,send report and Bluetooth printing, the interface is mainly used for reading temperature data recorded in a specific time period. There have send report and print report function(Please don't let the screen lock screen,or query will interrupt), As shown below:

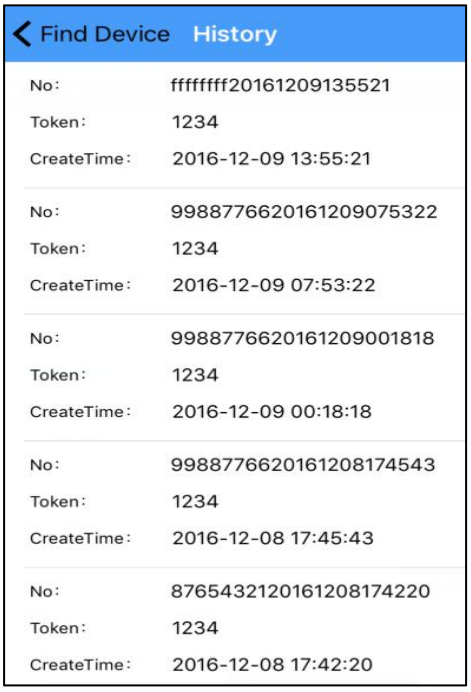




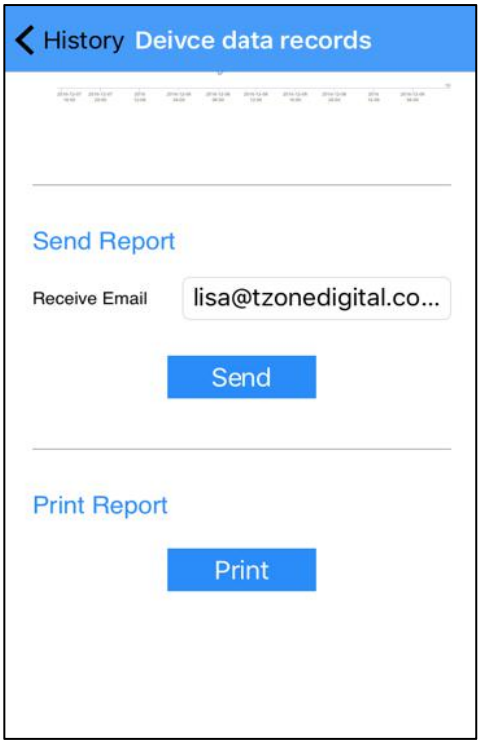


7.2.4 History data

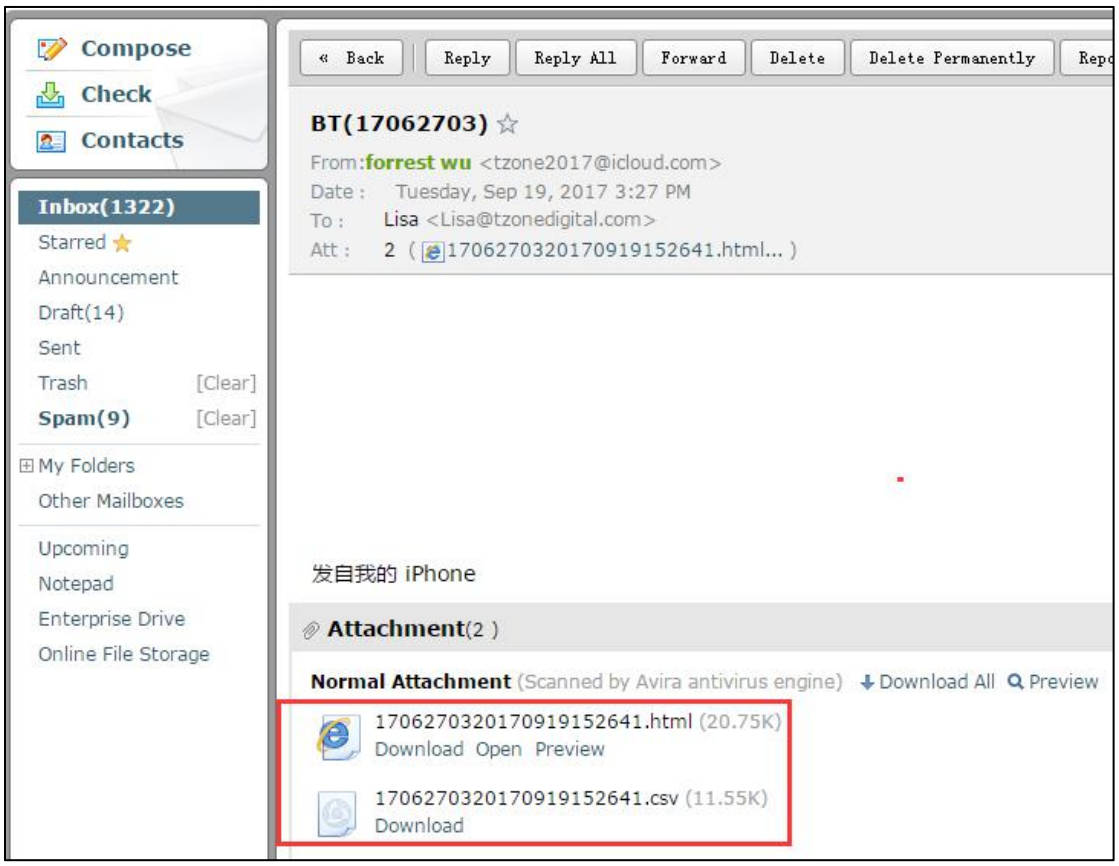
Every click query data, stored data will be stored in a history report, can enter the history report to see.



And query data, the same history report includes data record, temperature and chart and send report and print reports, as shown in the figure below:



In sending report can be set receive email, the first please set the email account on the mobile,click send, can generate HTML/CSV form the report and sent to email address:



Turn on the Bluetooth printer, click print button, can automatically search the Bluetooth printer device name, click the device name, can automatically match and print this data report: