

WTIOT-LTE Product Manual

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Product Specifications:SPECIFICATION

Model: WT301IOT-LTE

Description: Angle measurement sensor based on LTE-IOT transmission technology

Production execution standard reference

Enterprise quality system standard: ISO9001:2016 standard

Sensor production standard: GB/T191SJ 20873-2016

Product testing standard: GB/T191SJ 20873-2016

Product Overview

- 1.The module integrates a high-precision accelerometer, uses a high-performance microprocessor and advanced dynamics solution and Kalman dynamic filtering algorithm, which can quickly solve the current real-time motion posture of the module.
- 2.The product has a built-in angle alarm function. Users can set the alarm value by themselves. When the alarm value is exceeded, the sensor reports the data. Tilt alarm, remote control via WeChat, fast response speed, stable monitoring. View pictures on mobile phone
- 3.The use of advanced digital filtering technology can effectively reduce measurement noise and improve measurement accuracy.
- 4.LTE full network communication, remote end real-time data viewing, control module, realize the Internet of Things. Fast network access speed, low latency, 4G bearer.
- 5.Based on the existing operator network, it has wide coverage and high stability. The antenna is π -type network impedance matching, the standing wave ratio is less than 1.65, and the signal

Stablize.

6.Low power consumption mode supports long-term outdoor measurement. Long-term standby uses HPC IoT battery with a battery capacity of 8500mAh, standby power consumption of less than 10UA, and standby time of 5 years (approximately 1 hour/time data reporting).

7.PC shell, waterproof, dustproof and high temperature resistant.

Performance parameters

1.Battery parameters: 3.6V-8500mAh

2.Working current: shutdown <5uA sleep: <10uA (average value) working: <50ma (average value)

3.Duration of use: 5 years (report once every hour) (actual situation is calculated based on the upload time interval)

4.Shell volume: 100mm * 56mm * 44mm

5.Range: Acceleration: ± 2 g, Angle X Y 90°,

6.Measuring inclination accuracy: 0.2°.

7.Cache: Data can be stored locally without Internet access.

8.Data output content: acceleration, angle, battery voltage, XY alarm signal, upload interval, on-chip time, software version.

1.Axial Description



As shown in the figure above, the axis of the module is shown in the figure above, the right is the X axis, the upward is the Y axis, and the angle perpendicular to the plane is the Z axis. The X axis angle is the inclination angle of rotation around the X axis, the Y axis angle is the inclination angle of rotation around the Y axis, and the Z axis angle is the angle of the horizontal table.

2.Working Mode

After the product is turned on, it will flash for a while, waiting for data to be uploaded to the cloud, and then it will enter sleep mode. When the upload time is up or an alarm is triggered or the button is pressed, the product will automatically wake up to upload data. (You need to wait for the green light to go out when entering sleep mode for the first time)

describe	Switch button	Green Light
Power on	Long press for 2 seconds	Lights up for 2 seconds
Shutdown	Long press for 2 seconds	Lights up for 2 seconds
Work	Click	Flash
Hibernation	No operation required	Destroy
Sleep wake-up	Click	Lights up for 2 seconds
Setting the angle reference	double click	Lights up for 2 seconds and then flashes quickly for 3 seconds
Restore default parameters	Triple Attack	Slow flashing for 4 seconds

3.View data

3.1.WeChat View Data

3.1.1.Follow the official account

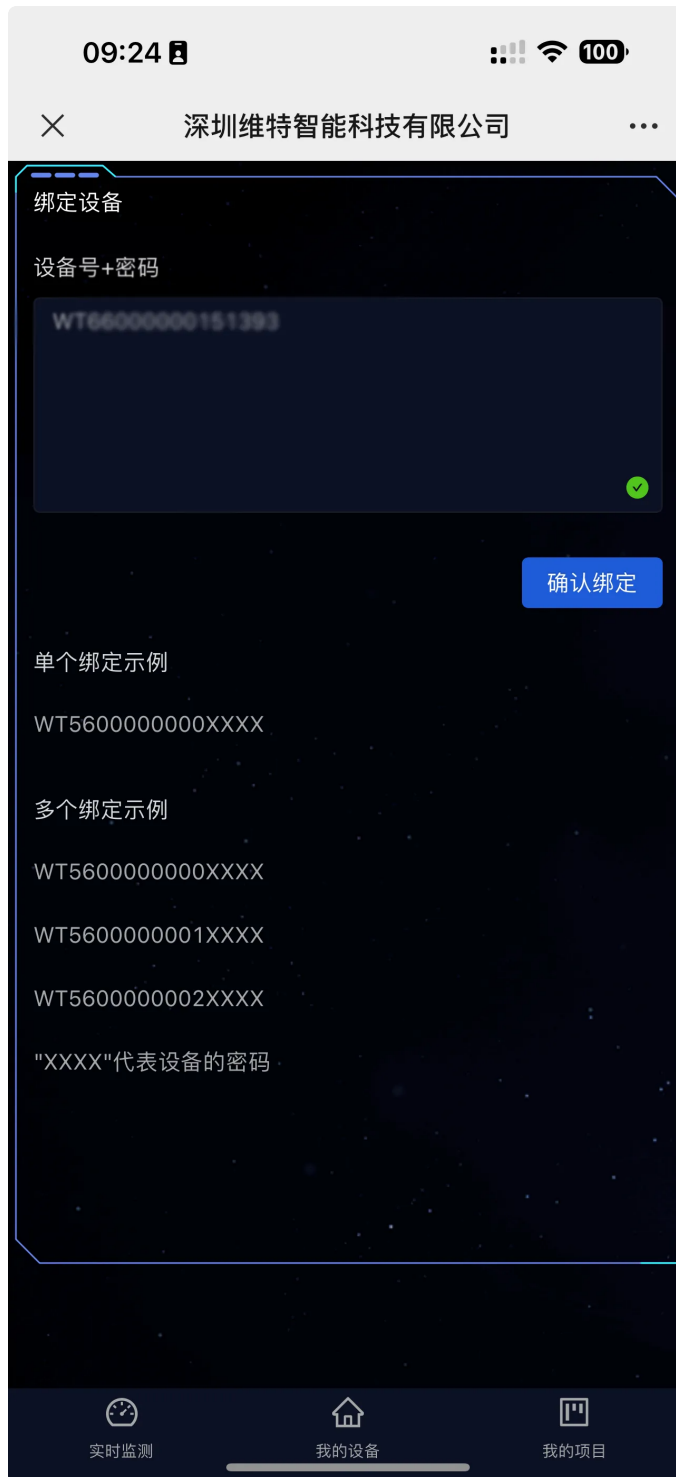


Open WeChat on your mobile phone, click "Scan", and follow the official WeChat account of Witt

3.1.2. Scan code to bind

Scan with WeChat on your mobile phone (the first 12 digits of the tag definition are the device number, and the 4 digits in brackets are the device password)





3.1.3.View data

1. Enter the official account.



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2. Click "Product Support - Witt Cloud Platform", and then click the "Posture Monitoring Cloud Platform" URL (for this step, you need to bind the device first, please refer to Section 3.1.2).





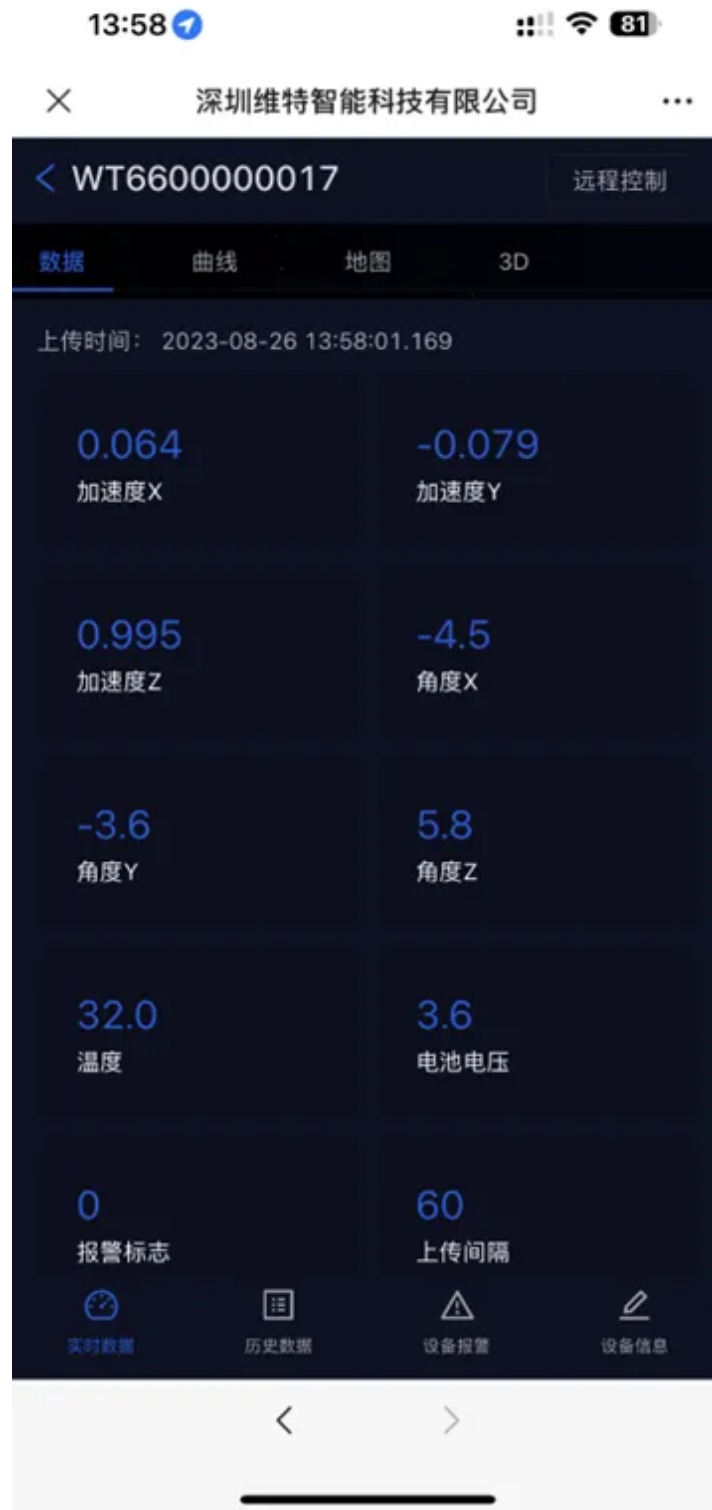
3. Enter real-time monitoring to view the device alarm status and alarm time.



4. On the "My Device" page, you can see all your bound sensors, and then click the sensor you want to view to view the data.



5. Click on the corresponding sensor to view the data directly.



3.2.View data on PC cloud

[Instructions for using the WitCloud platform](#) 《Instructions for using the Witt Cloud Platform》

4.Configuration Modification

4.1.Relative posture

Open the WeChat public account on your mobile phone and enter the Wit Cloud to find the device you need to configure relative posture. Click Remote Control in the upper right corner and click Relative Posture. The product will send the configuration parameters the next time it wakes up. (You can use a button to wake up the sensor)

13:58

81



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< WT6600000017

远程控制

数据

曲线

地图

3D

上传时间: 2023-08-26 13:58:01.169

0.064

加速度X

-0.079

加速度Y

0.995

加速度Z

-4.5

角度X

-3.6

角度Y

5.8

角度Z

32.0

温度

3.6

电池电压

0

报警标志

60

上传间隔



实时数据



历史数据



设备报警

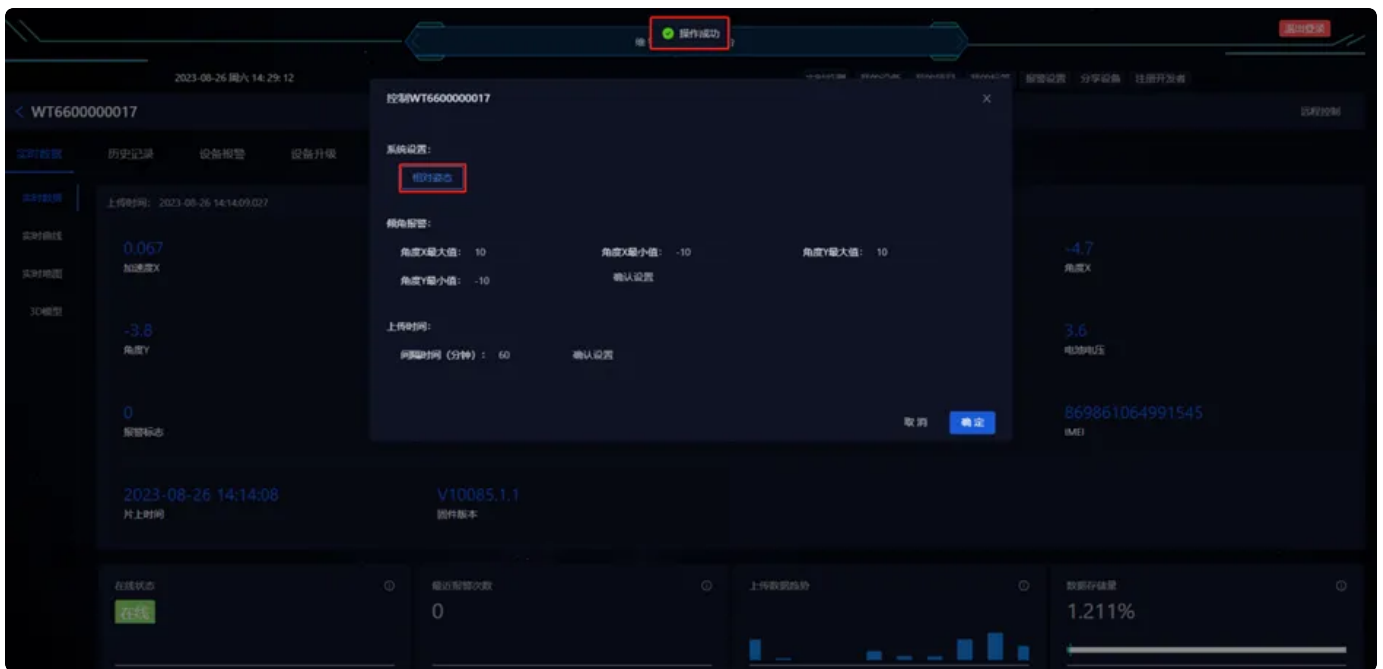


设备信息





The cloud platform address that can be accessed from PC: <https://iot.wit-motion.cn/cloud/attitude/index.html>

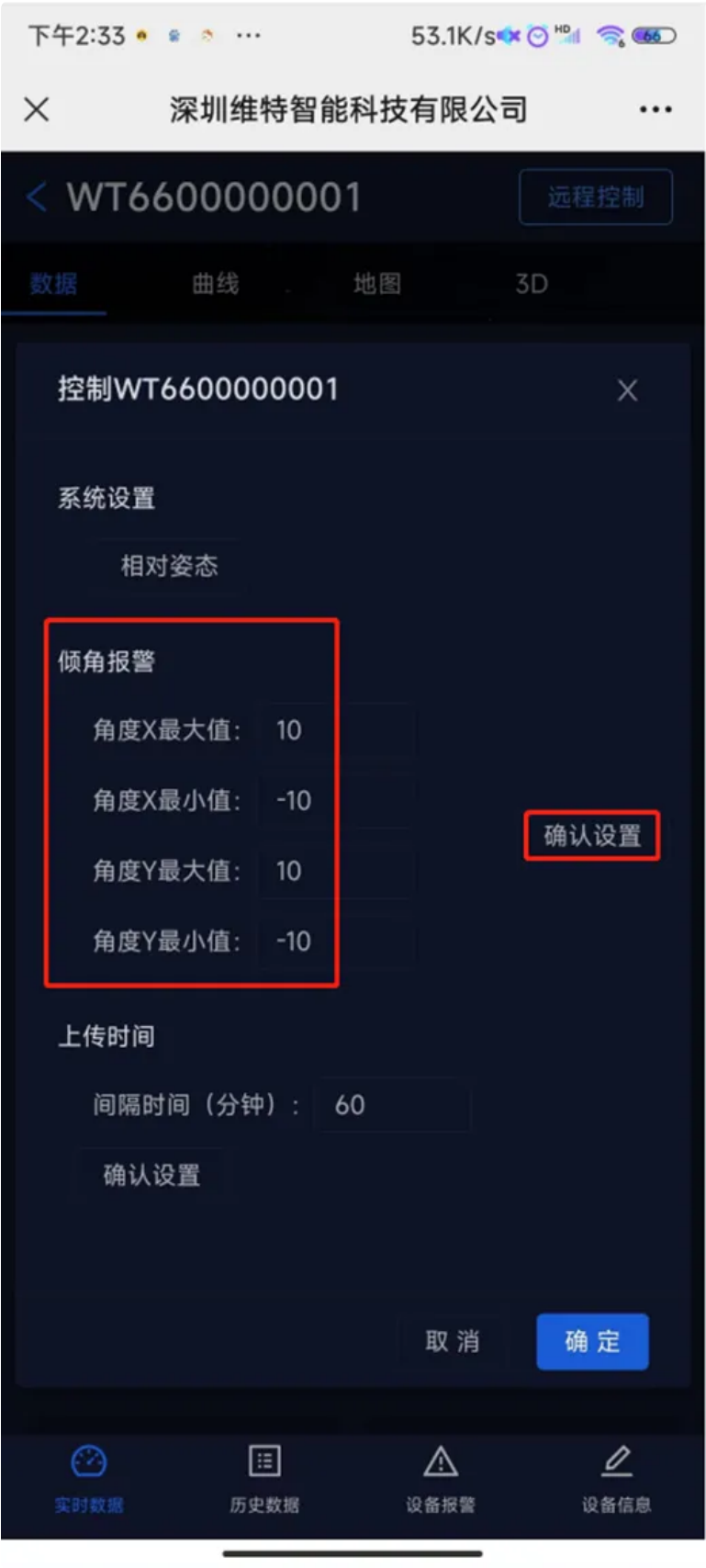


4.2.X/Y axis angle alarm

Angle alarm is through the X-axis and Y-axis tilt angle alarm. For example, set the X-axis and Y-axis minimum value to -10° and the maximum value to 10° ; when vibration occurs and the vibration tilt amplitude is greater than the X-axis and Y-axis preset value, the sensor will be awakened, the data will be automatically uploaded to the server, and an alarm will be prompted on the mobile phone. Click Set after changing the parameters, otherwise the setting will not be confirmed.

Note:

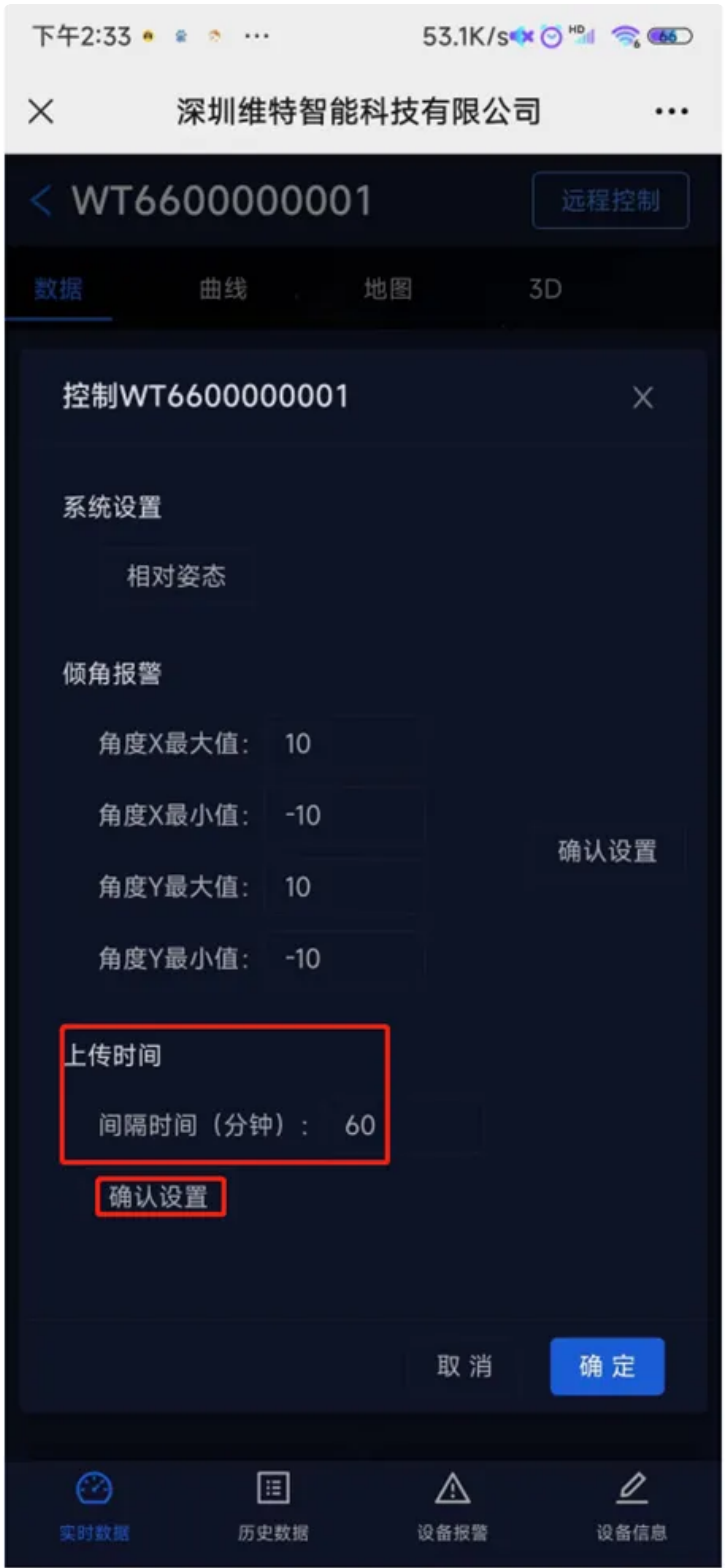
- 1. To modify the tilt angle, click to confirm the setting.
- 2. After modification, wait for the device to wake up next time before the platform can send the settings to the local sensor device.



4.3.Data reporting frequency

The upload interval is the time interval for data reporting. The reporting frequency range is 30-1440 minutes. Regardless of whether the angle is greater than the alarm angle value, data will be reported once.

Note: Click Set after changing the parameters, otherwise the settings will not be confirmed.



4.4.Transmission third-party server IP modification

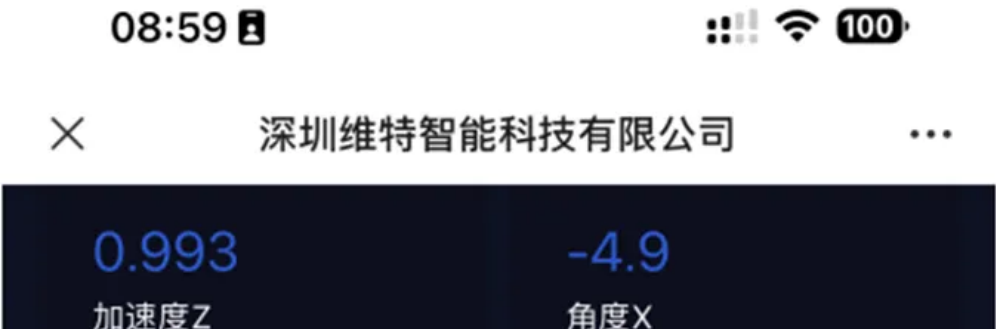
Note: If the installation conditions are complex, it is not recommended to modify the server. Once the server is modified incorrectly, the data will not be uploaded and the device must be removed for a hardware reset. If you need to modify the server in batches, you can contact our sales department before purchasing the device to make modifications before shipment.

Supports remote modification of the server. If the server is modified incorrectly, the device will not upload data. You can refer to the restore default button method in the working mode to restore the factory settings.



5.Card number flow query and recharge system

Query card number: Enter the WitCloud via WeChat official account, select the device you want to query, and query the device CCID, as shown below.





Traffic query website:

https://iots.shingsou.com/wxpay/index.html?id=31a68021d34f41dd8927247265028571

You can query by entering the CCID card number. Note: If you cannot upload to the server but find that there is still traffic, please check the expiration time. The expiration time will increase after recharging the annual package.

流量在线充值系统

公告 在线充值 流量查询 实名认证

流量卡号
8980436102000376957

查询

流量iccid卡号
8980436102000376957

流量接入号
1440962250206

运营商
移动

到期时间
2021-12-31

余额
356MB

卡状态
正常

确认 取消

To recharge your data, enter your card number and click Confirm. Note: After recharging your annual package, your current data will be refreshed. Please confirm your data and expiration date before recharging.

流量在线充值系统

公告 在线充值 流量查询 实名认证

8980436102000376957

确认

到期日期

流量月包 原套餐未使用完，再次充值原套餐会清零

流量年包 原套餐未使用完，再次充值原套餐会清零

100M/月
1.00元

400M/月
4.00元

100m/月
1.00元

4800M/年
48.00元

600m/年 移动卡
6.00元

1200M/年
12.00元

6. Upload data to cloud platform protocol analysis

6.1、Server Interaction Description

Module upload:

WT66000000001030.065,0.437,0.784,4.1,29.0,60.6,29.5,3.77,0,60,89860478102070571785,869861065067113,2023-08-11 16:44:40,V10010.1.1

6.2. Server upload data protocol

The output data content is: device id03 acceleration X, Y, Z, angle X, Y, Z, temperature, battery voltage, alarm flag, upload time interval, ccid, imei, time, version number (line break is \r\n, occupying two bytes). Please refer to the following table for details.

(Note: Different data are separated by commas, but there is no comma after the command character. The acceleration X data is directly connected, and the remaining data are separated by commas.)

Example data:

WT66000000001030.065,0.437,0.784,4.1,29.0,60.6,29.5,7.78,0,60,89860478102070571785,869861065067113,2023-08-11 16:44:40,V10010.1.1

The meaning of the parsed data:

Device ID	WT66000000001
Commands	03
Acceleration x	0.065
Acceleration y	0.437
Acceleration z	0.784
Angle x	4.1
Angle	29.0
Angle z	60.6
Temperature (product chip temperature)	29.5
Battery voltage	3.77
Alarm sign	0
Upload interval	60

ccid	89860478102070571785
imei	869861065067113
time	2023-08-11 16:44:40
Software Version	V10010.1.1
Return to Line	\r\n

Note: Warning signs

Alarm sign	Significance
0	No alarm status is triggered
X+\	The X-axis angle is greater than the set maximum value.
X-\	The X-axis angle is less than the set minimum value.
Y+\	The Y-axis angle is greater than the set maximum value.
Y-\	The Y-axis angle is less than the set minimum value alarm mark
PWR\	Battery voltage is less than the minimum normal working voltage alarm sign
The above alarm signs can be combined. For example, X+\Y+\PWR\ means the X-axis is greater than the set X-axis angle alarm, the Y-axis is greater than the set Y-axis angle alarm, and the battery voltage is low alarm.	

Contact Us



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