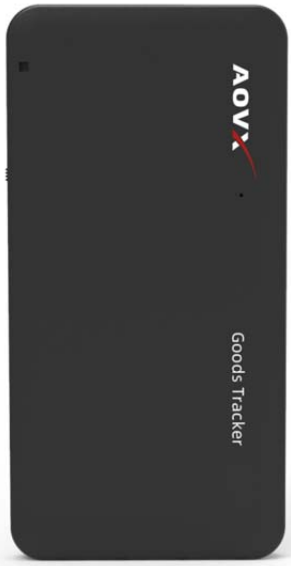
WE TRACK AND
PROTECT YOUR **ASSETS**

Assets Tracker User Guide

G Series



V1.1

www.aovx.com

History

Revision	Date	Author	Description
V1.0	2020-10-4	Lee	Initial
V1.1	2021-10-27	Lee	Update Parameters

Contents

1 Product Overview

1.1 Product Introduction

G series assets tracker is an intelligent hardware terminal that integrates CAT.1/CAT.M1/NBIOT, GNSS, WiFi Bluetooth, high-precision temperature and humidity sensor and a variety of sensors, which can be deployed globally. The device is ultra-thin and compact, simple and convenient to install. It can be shipped with goods. such as luggage, valuables, fresh food, pets. It can monitor the location information, temperature and humidity, vibration, abnormal unpacking and other status of items in real time, and realize automatic alarm for abnormal location and status. At the same time, data such as asset status and in-transit transportation routes are uploaded to the cloud in real time, so asset transportation scheduling and analysis can be managed through the cloud platform visually, which improves transportation efficiency and reduces risks and costs. It can be used as a Bluetooth gateway to bind to multiple Bluetooth tags. For details, please refer to the E series Bluetooth sensor products. It can monitor multiple assets in parallel in real time. The connection is stable, the configuration is flexible, and the terminal usage cost is lower.

1.2 Product Features

1.2.1. Multiple Positioning Technology

Integrate GNSS positioning (GPS, Beidou, GLONASS), LBS base station positioning, WiFi , Bluetooth and other positioning technologies to fix the location of assets in real time. Support electronic fences, transportation route planning and location deviation alarms.

1.2.2. Bluetooth

The device supports Bluetooth 5.0 ibeacon technology. It can obtain the real-time tracking of goods information. through the Bluetooth module.

1.2.3. Comprehensive Monitoring Technology

The device monitors the assets in an all aspects. In case of overspeeding, severe vibration, tampering, dwelling, delay, abnormal light, alarms will be generated automatically.

1.2.4. Data Visibility Technology

We provide web-based visualized management platform. This kind of insight enables you to be smarter in your planning and make more proactive, data-based decisions.

1.2.5. OTA Technology and Configuration Flexibility

Parameter configuration and firmware maintenance can be done locally or remotely, such as firmware upgrade, data sampling interval, report interval, alarm threshold and etc. So the on-site support is not necessary.

1.2.6. Long Standby

When reporting, the device is connected to the network to send data. During the reporting period, the device will be in a sleep mood, for reducing the power consumption of the device. The device has a long standby time for one year and can work continuously for up to one month.

1.2.7. Easy Installation

The device is installed through adhesive or directly placed in the goods, which is simple to install, easy to disassemble. It can be reused, time-saving and convenient.

1.2.8. Electronic Fence

The device supports rectangular, circular and polygonal electronic fences. When the device enters or leaves the area, it will trigger an alarm to the platform.

2 Product Parameters

❖ General Parameters:

Dimension: 118*61*8mm

Weight: 85g

Positioning Accuracy : <10m@ GNSS

Operating Temperature Range: -20℃~70℃

Power Supply: Lithium Ion Battery (USB 5.0Vcharging)

Battery Capacity: 2500mAh

Battery Standby:12months

❖ Network Parameters:

Network: LTE 4G Cat.1/Cat M1/Cat NB2

GL100-CN (China)

LTE: B1/B3/B5/B8B34/B38/B39/B40/B41

GSM: 900/1800MHz

GL100-EM (Europe and Asia Pacific)

LTE: B1/B3/B5/B7/B8/B20

GSM: 850/900/1800/1900MHz

❖ Sensor Parameters:

Motion Sensor:

Gravity Measurement Range: ±2g/±4g/±8g/±16g

ODR Bandwidths: 1Hz ~ 400Hz

Light Sensor:

Measuring Range: 1~ 1000 (adjustable levels)

Spectral Peak: 540 nm

Temperature and Humidity Sensor:

Humidity Measurement Accuracy: ±2% RH@+10℃ ~ +70℃

Temperature Measurement Accuracy: ±0.3℃, -20℃ ~ +70℃

Network: Cat M1/Cat NB2

GM100-GL (global)

LTE: B1/B2/B3/B4/B5/B8/B12/B13/B14/B18/B19/B20

/B25/B26/B27/B28/B66/B71/B85

GSM: 850/900/1800/1900MHz

Network: 2G

GG100-GL (global)

GSM: 850/900/1800/1900 MHz

3 Product Application

3.1 User Guide

3.1.1. Turn on the Device

Slide the switch to **ON**. The blue indicator light flashes that mean the device starts normally.

Slide the switch to **OFF**. The blue indicator light goes out that mean the device shuts down normally.

3.1.2. Charge

The device supports Micro USB charging, and the red light is always on when charging.

3.1.3. SIM Card

First slide the switch to the OFF position, and insert the Micro SIM card. If your SIM card requires to configure the APN, please confirm the APN info with the card issuing operator. And refer to Chapter 4 to configure.

3.1.4. Installation Location

Place it directly in the product packaging box after opening the device, or stick the adhesive on the outside of the goods packaging box. Be sure the logo faces down, light-sensitive face and barcode face up during the installation.

3.2 Product Function

G series device can be configured locally via USB port and remotely through command from server. The parameters include sampling and report interval, alarm threshold. Below is the main functions and data report logic of G series device.

3.2.1. Location Reporting Function

Periodic reporting: The default configuration is to obtain location information every 10 minutes and store it locally, then report to the platform every hour. When the GNSS positioning fails, the base station or WiFi positioning will be activated as assistance. If the device does not detect the network, it will stop reporting, and enters sleep mode. After reconnecting to the network, it will relocate and report.

Triggered reporting: when the device is deviated from the preset route. It will trigger an alarm to the platform.

3.2.2. Temperature and humidity monitoring

Periodic reporting: The default configuration is to obtain temperature and humidity information every 10 minutes and store it locally, then report to the platform every hour. When the GNSS positioning fails, the base station or WiFi positioning will be activated as assistance. If the device does not detect the network, it will stop reporting, and enters sleep mode. After reconnecting to the network, it will relocate and report.

Triggered reporting: when the device detects abnormal temperature and humidity It will trigger an alarm to the platform.

Threshold Setting:

For the goods need to be in different environments, you can support flexible setting of temperature and humidity ranges through local USB interface configuration or remote server issuing instructions.

3.2.3. Light Density Monitoring

Periodic reporting: The default configuration is to obtain the light density of assets every 10 minutes and store it locally. Then report the data to the platform every hour.

Triggered reporting: when the light density exceeds the threshold, it will trigger an alarm to the platform.

3.2.4. Motion Detection

Periodic reporting: the default configuration is to obtain assets movement every 10 minutes and store it locally. Then report the motion status to the platform every hour. At the same time, it will record and judge the movement status, and generate a report if it's static for too long.

Triggered reporting: when the device detects the violent vibration of assets, it will trigger an alarm to the platform.

3.2.5. Low Power Alarm

If the device is of low power supply, the platform will trigger an alarm.

3.2.6. Electronic Fence

When the device enters or exits a preset fence, the platform will trigger an alarm.

3.2.7. OTA Upgrade

The device supports remote firmware upgrade.

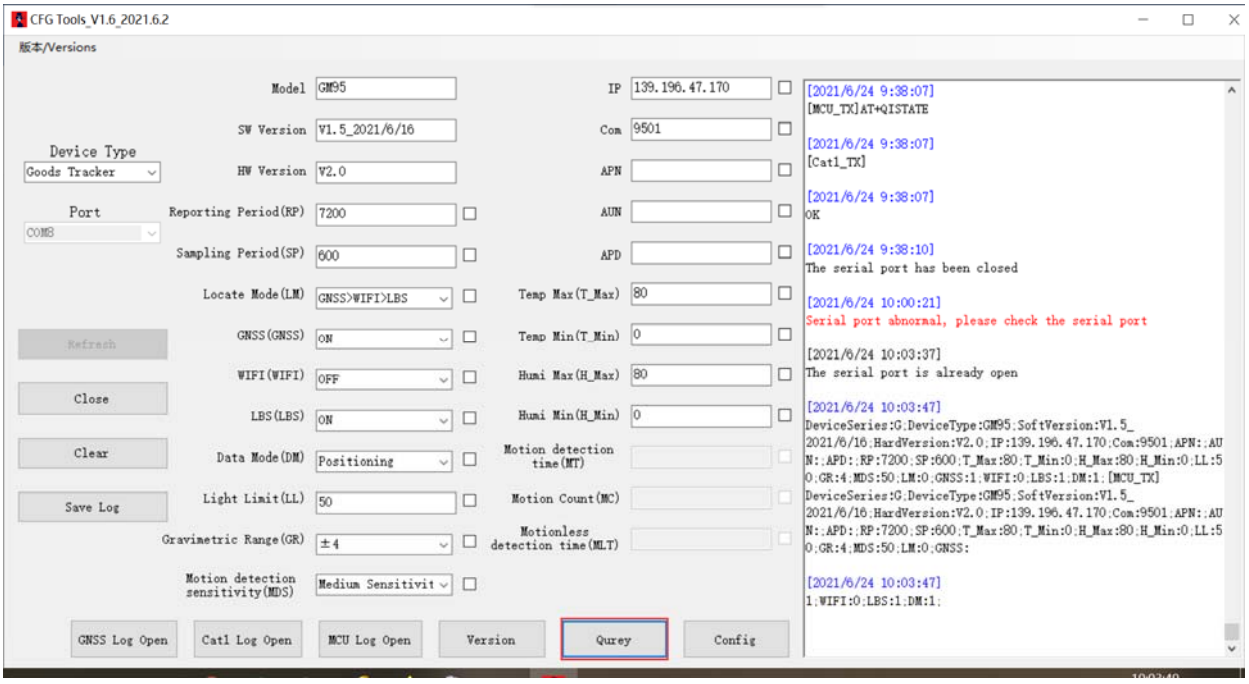
4 Parameter Configuration

Open the configuration tool and connect the device.

If you need to configure the APN, please confirm the APN with the card issuing operator. Follow the steps below to set it up:

(1) Please connect the device to the computer via a USB cable.

(2) Choose correct serial port and device type.



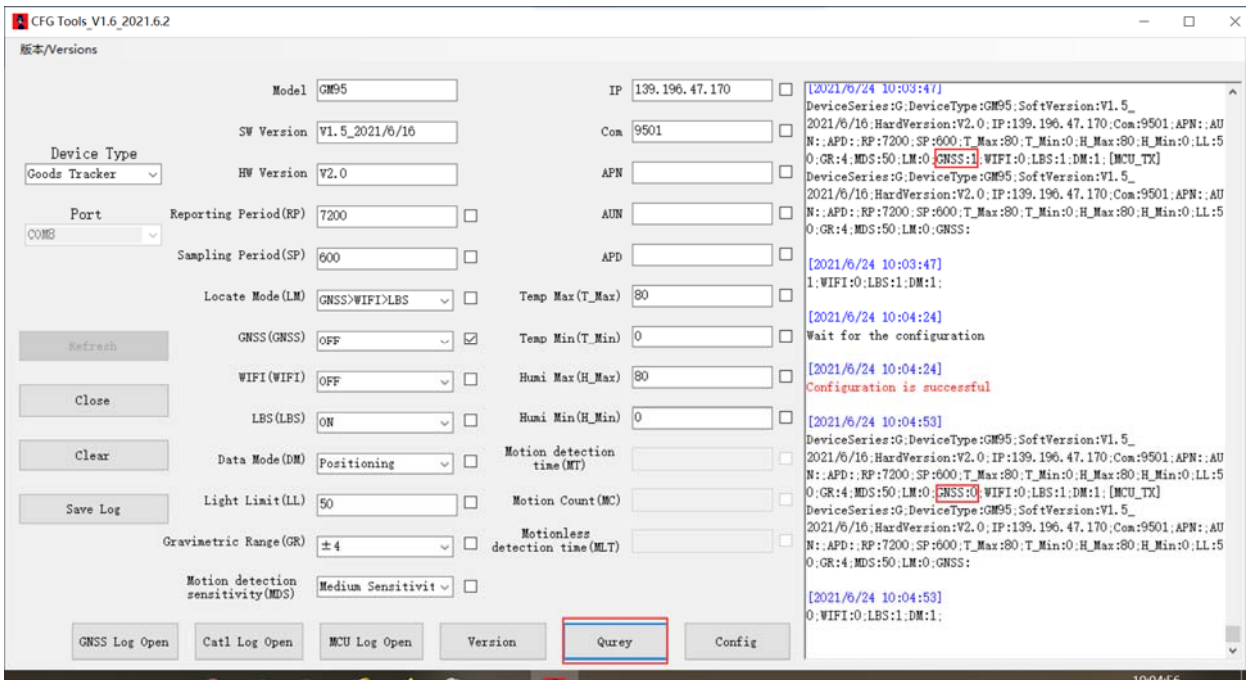
(3) Open COM Port.

(4) Query current parameter and version, data is shown is display area and filled in parameter area.

(5) Find the parameter you want to change input value or choose status, then click on the box on the right.

(6) Click on **Config** button to set the value.

(7) **Local CFG Succeed** means configuration is done. You can query parameter again to double check.



5 Platform Management

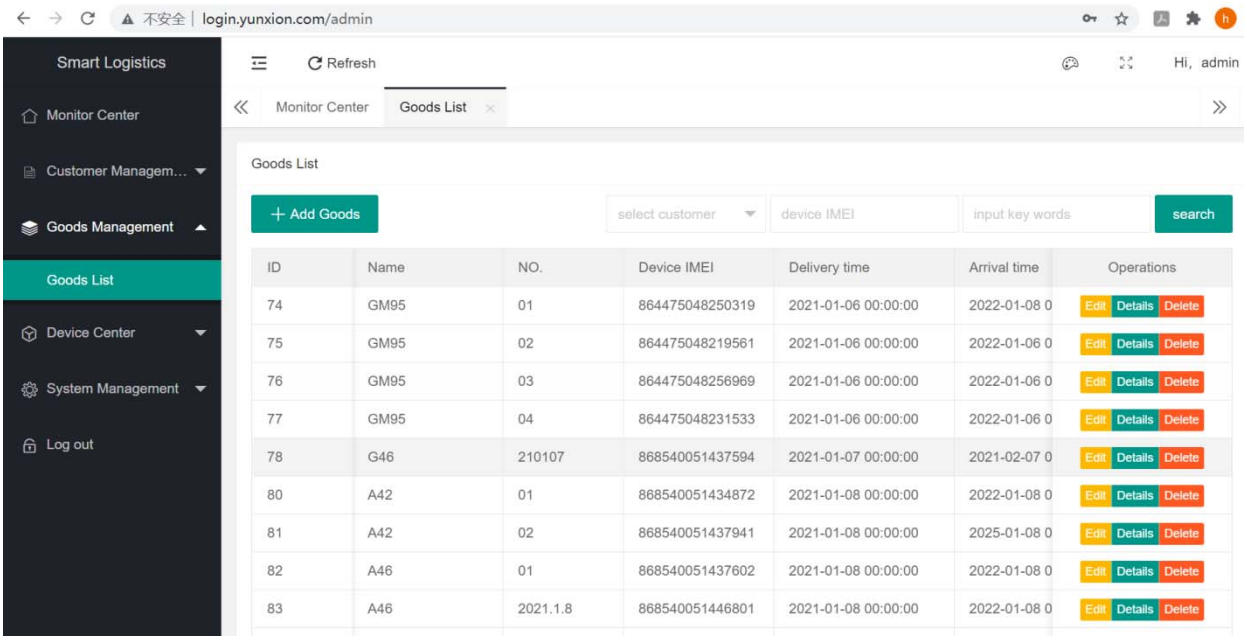
Customers can use our platform, as well as third-party or your own platforms. The configuration and user guide are as follows.

5.1 AOVX Cloud Platform

Website: http://login.yunxion.com/, user name and password are provided by AOVX administrator.

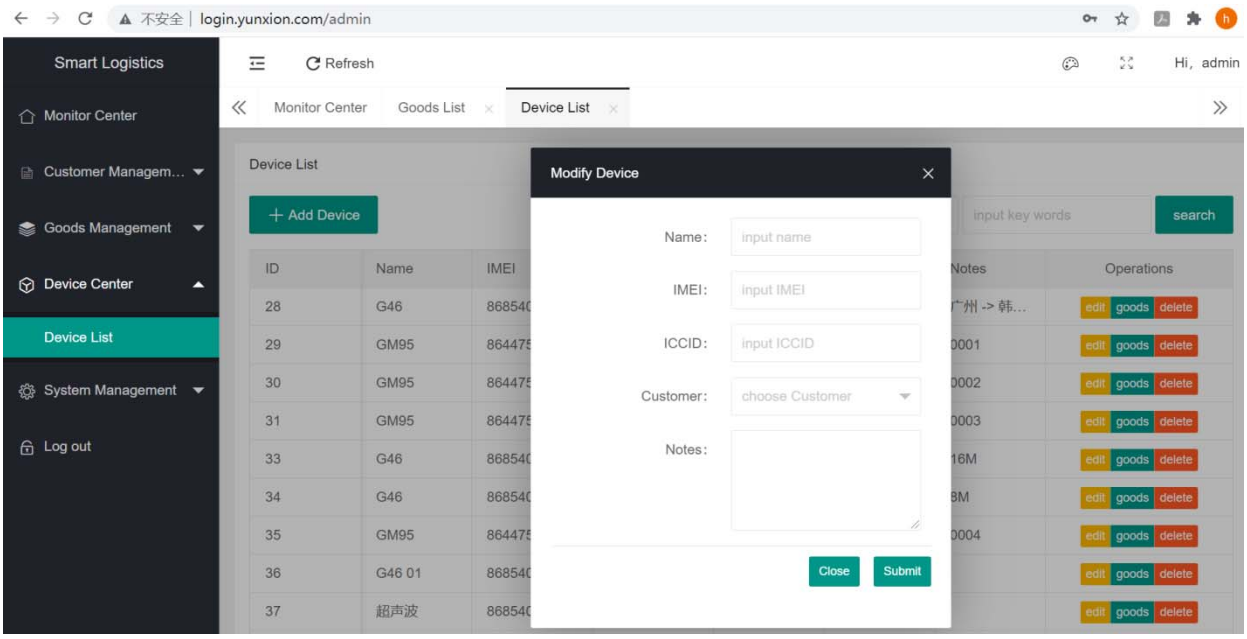
5.1.1. Add Goods

Enter **Goods Management—Goods List**, **Add Goods**. Fill in requested information, so it'll be easy to search your assets or goods. Be noted, IMEI must be the same with the label sticked to the back side of the device. Departure time means you want to view the status information of the device from which point in time, the arrival time can be estimated according to the shipping time.



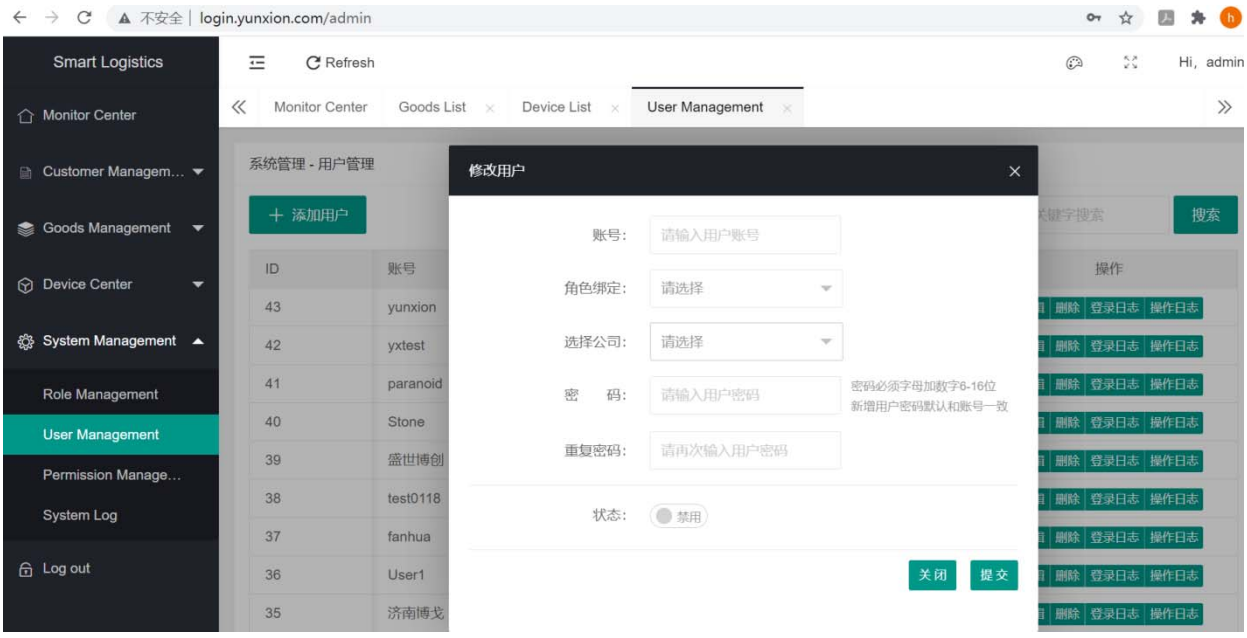
5.1.2. Add Device

Enter **Device Center—Device List**, **Add Device.** The IMEI must be consistent with the label on the back of the device. Only by adding goods and device at the same time, they can be bound correctly, then the route will be correctly displayed.



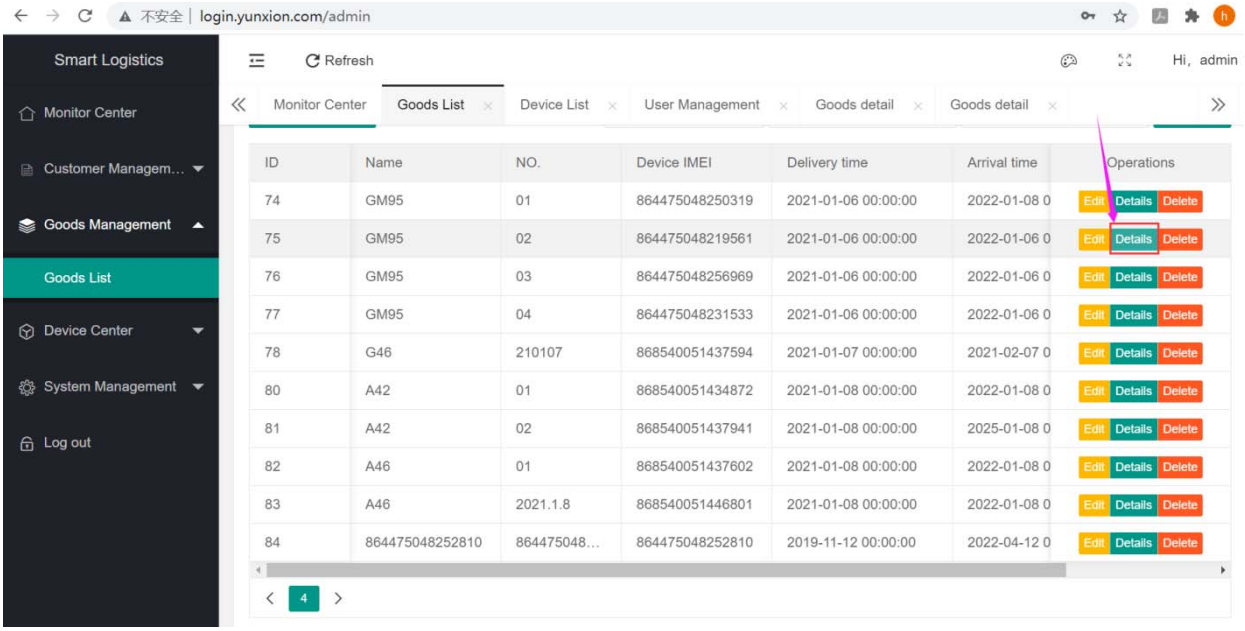
5.1.3. Add User

Enter **System Management—User Management**, **Add User.** You can add other coworker in this platform to monitor and manage assets together.

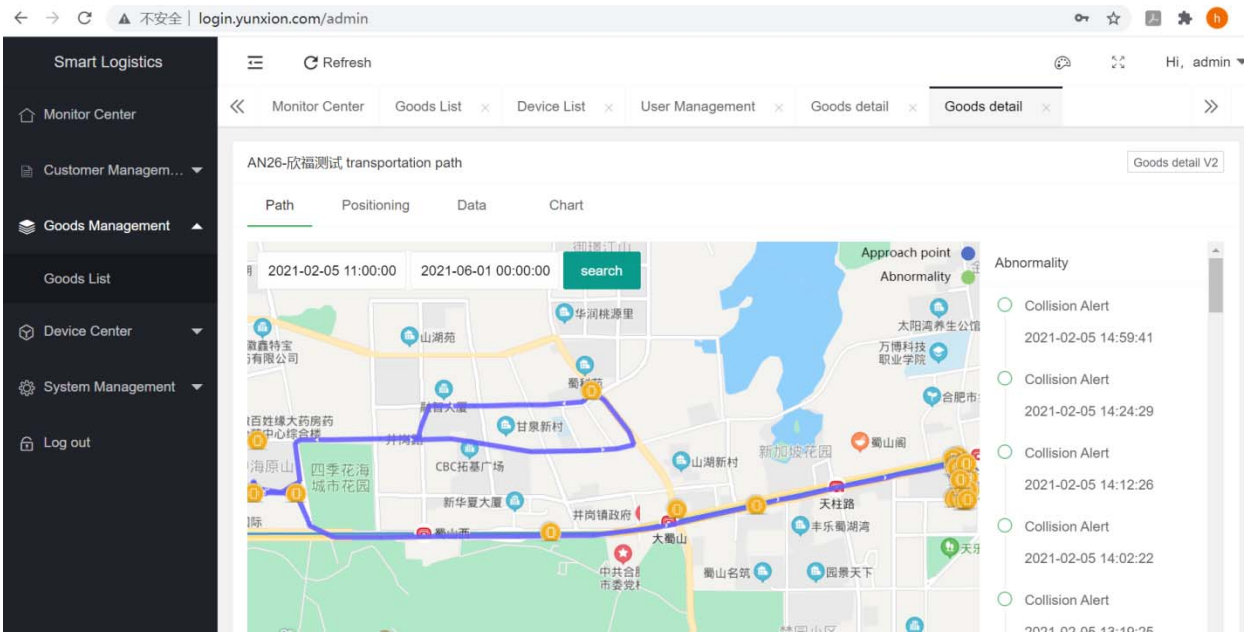


5.1.4. Check Status

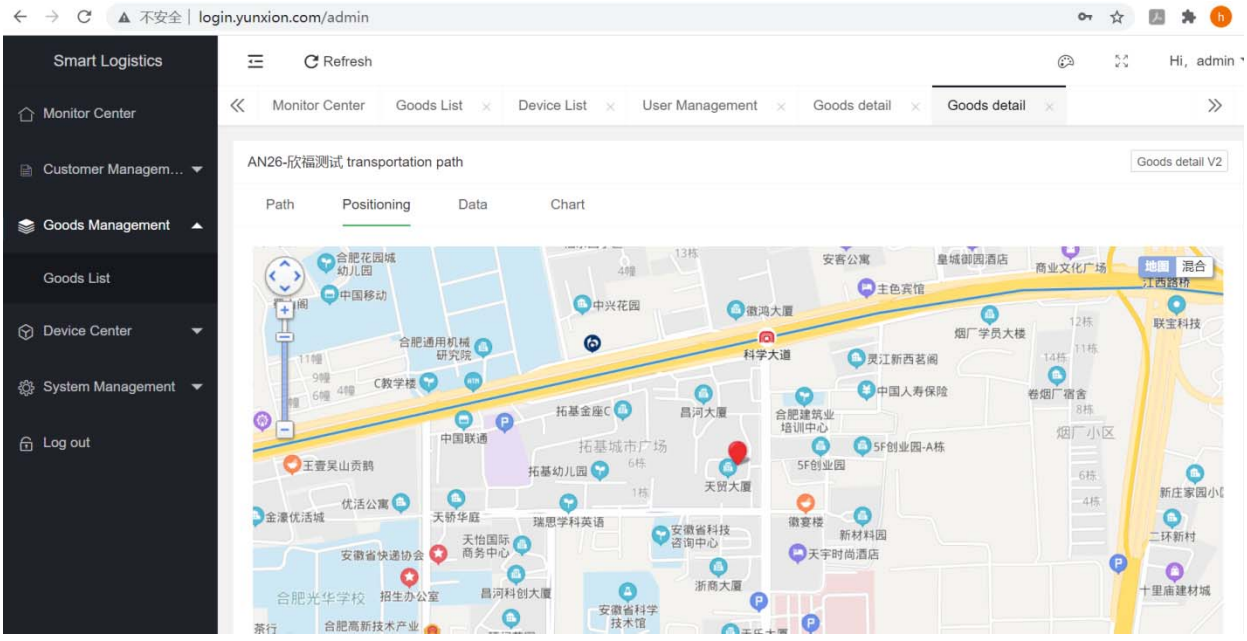
After device is correctly added in platform, you can click the corresponding **Details** in the **Good List** to open the track, location, data list and line chart of the goods.



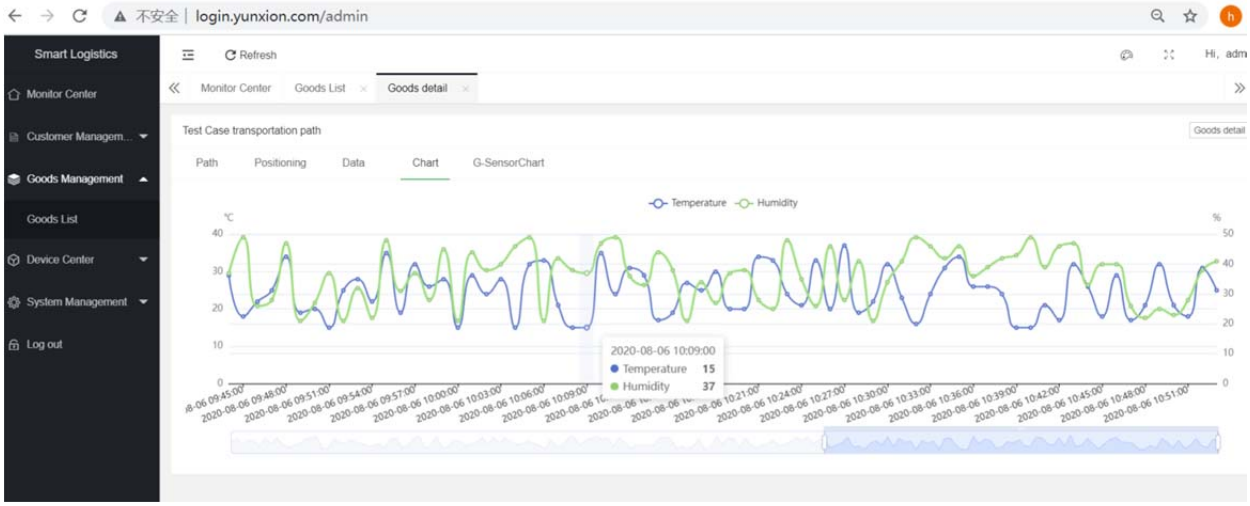
5.1.5. View History Route



5.1.6. View Current Position



5.1.7 Check Temperature and Humidity Information



5.2 Third-Party or Customer-Owned Platform

Please refer to the device interface protocol ***AOVX_Assets Tracker_G_Series_Cloud Platform Protocol*** .

G Series User Guide

AOVX Assets Tracker Solutions Corp.

Website:www.aovx.com

Mail:info@aovx.com

Tel:+86 18949864976