Wireless Gateway Introduction and Configuration

Solution, Products, Configuration

Jasmine Fu

2022.11

CONTENT

1

Products & Solution Overview

2

Debugging

3

FAQ

Objectives

After learning this course, you will be able to be familiar with the wireless gateway.

Products Overview

Wireless Alarm

Alarm Controller

ARC3000H series

Keypad/Modules

Keypad   Relay   Input Expander

Detector/Peripheral

Products & Solution Overview

Invisible Connection, Tangible Protection!

Released in March, 2021
Hub, Wireless Siren, Keyfob, PIR, Door Detector

Released in Sept., 2021~Feb., 2022
Door Detector, Repeater, Input Expander, External Siren, Emergency Button (Single Button)

Released in April, 2022
Emergency Button (Double Button), Smoke Detector, Keypad
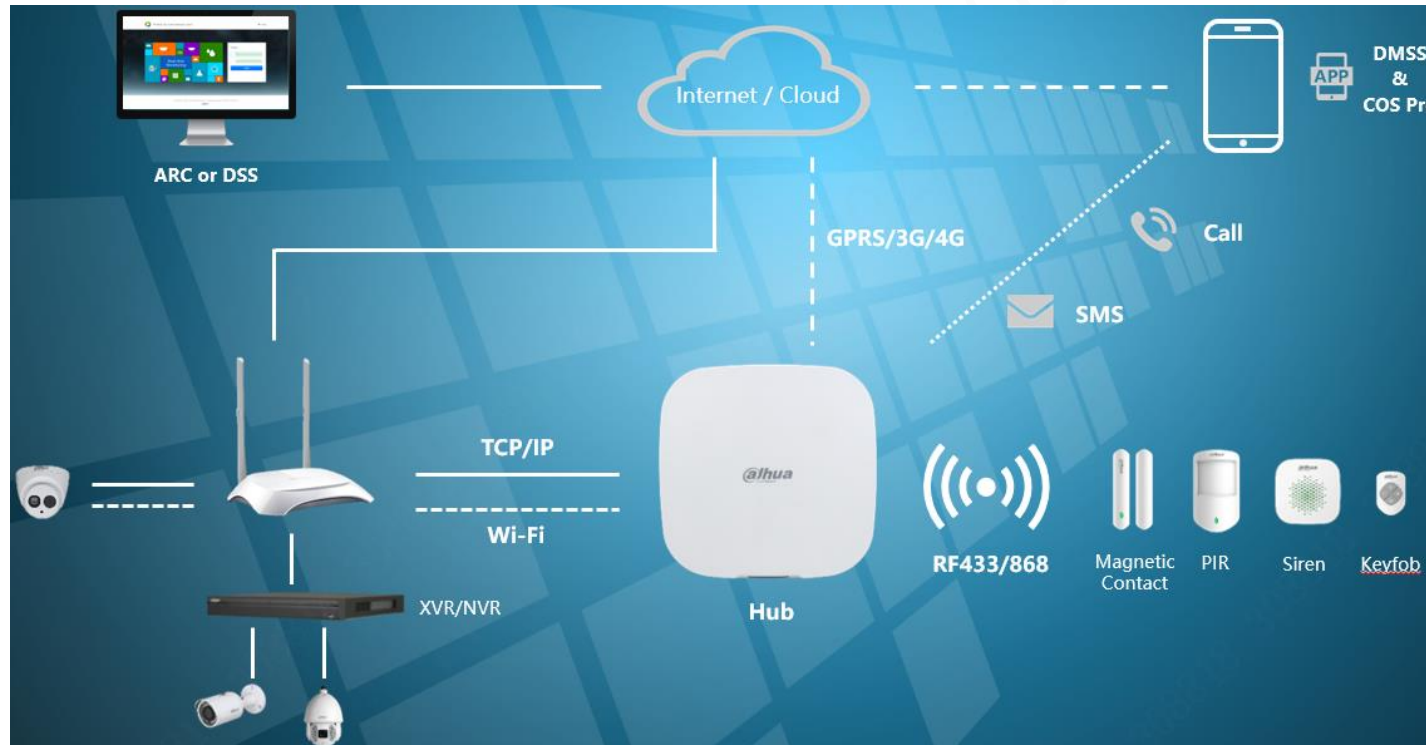
Released in June, 2022
PIR Camera

Released in August, 2022
Relay

Will release soon
Dual-tech, Water Leak

Software Support

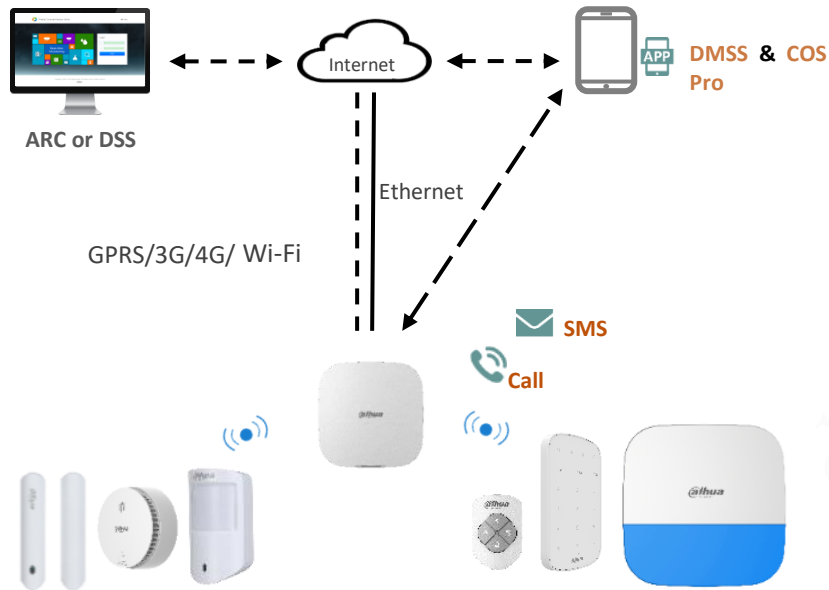| SW / Product	DSS Pro	DMSS	COS Pro	Converter
ARC3000H	V8.1 and later	By PaaS	By PaaS	1.Auto Register 2. Docking through cloud forwarding (under development)

Application | Scenario

◆ Most of them are used in the alarm operation service industry of villas, apartments and small shops.

  They are growing rapidly and are rapidly replacing the traditional wired scheme.

PIR Cam Passive Infrared

Keyfob

Door Contact

External Siren

Siren

Alarm Hub

Smoke Detector

DMSS
COS Pro

ARC or DSS

Application | Solution

Solution Overview

ARC or DSS

Internet

DMSS & COS Pro

Ethernet

GPRS/3G/4G/ Wi-Fi

SMS

Call

Product List

■ Alarm host: the basic version, 2G version and 4G version have been released, but the networking mode is different. Other functions are consistent, and must be selected.

■ Detector: PIR, door magnet and emergency button (single button) have been released, emergency button (double button) has been released in early April, smoke detector has been released in early May, and PIRCam5 has been released at the end of May, which can be selected as required.

■ Module: Single input module has been released for access to wired detectors. Relay output module is expected to be released at the end of August, and can be selected as required.

■ Other accessories: remote control, indoor alarm, outdoor alarm and repeater have been released, keyboard will be released at the end of March, and can be selected as required.

Application | Solution

Highlight

- It meets the EN50131 Grade 2 certification standard, and is more friendly to European operating customers (products with EN certification will be subsidized by the government after installation).

- It supports the general interface protocol SIA DC-09 in the alarm industry and is more convenient to interface with the third platform (ARC).

- Based on 433MHz and 868MHz wireless communication, it can reduce the wire material and labor cost of installation construction (reduce the installation threshold, and some countries have qualification requirements for weak current construction personnel), and improve the installation efficiency.

- The two-way communication mechanism is used between the gateway and peripherals. With cloud services, wireless devices can be remotely managed, configured, and operated on mobile apps, and the device status can be viewed. Cloud upgrades can be performed on all devices (few friends support cloud services, and they can only remotely upgrade the host at present), greatly reducing the operation and maintenance costs of alarm operation service companies.

- DMSS and COS Pro, mobile phone apps with good usability for end users and installers/service providers respectively, meet the end users' desire to control the security system, and improve the efficiency of installers/service providers in the early stage of equipment installation and configuration and in the later stage of providing alarm operation services.

- 2G and 4G versions respectively support GPRS and 4G/3G/GPRS networking, realize redundant backup in networking mode, improve security, and support SMS and telephone alarm.

- It supports the interconnection and interworking applications with NVR and Android VTH, and solves the problems of linkage failure, linkage difficulty, linkage expensive, and poor linkage application experience between multiple security subsystems. It is our competitive edge against traditional alarm manufacturers.

Application | Connecting NVR
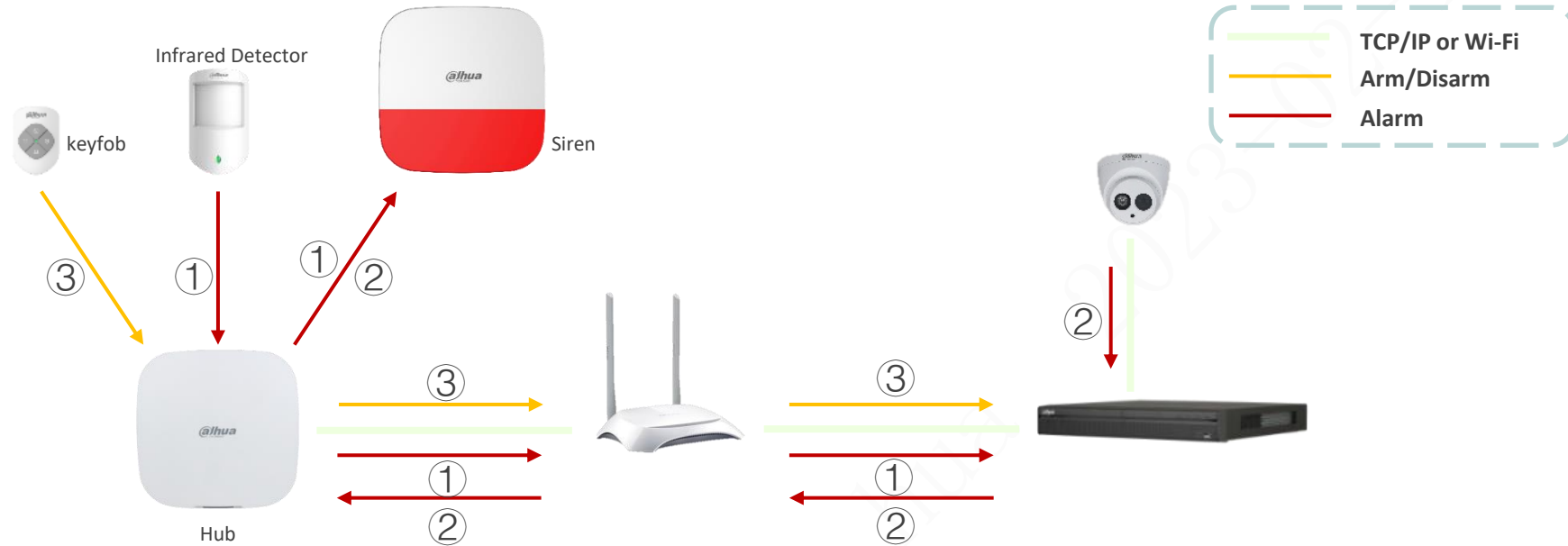
① After the alarm hub is added to NVR and the linkage rules are configured on NVR (which detector links which channel, and which channel's intelligent alarm needs linkage alarm signal), when the detector alarms, in addition to the linkage alarm signal, it will also link the corresponding video channel for video recording.

② After the intelligent alarm event of the monitoring system is generated, the alarm signal will be linked according to the linkage rules.

③ When the alarm system is deployed and disarmed through the remote control, keyboard and mobile phone App, the monitoring system will also enter the deployment and disarm status synchronously.

Support firmware: Customer_XVR5x08-I3_MultiLang_AlarmHub_V4.001.1AQP000.0.T.220915.zip, Customer_NVR4x-4KS2L_MultiLang_IoT_V4.001.9992000.0.R.220805

Application | Connecting VTH

TCP/IP or WiFi	
Arm/Disarm	
Alarm	

PIR Detector

Siren

Hub

VTH based on Android system
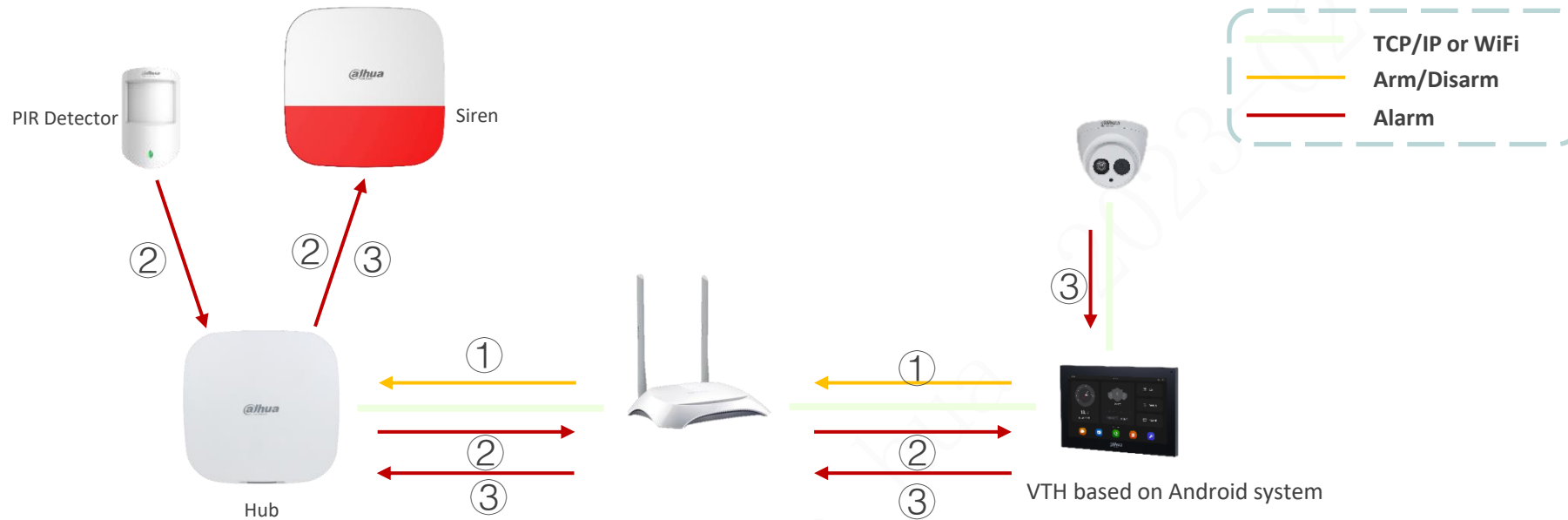
① After the alarm hub is added to the VTH, the alarm system can be deployed and disarmed on the VTH, and the status information of each device of the alarm system can be viewed.

② When the detector alarms, in addition to the linkage alarm signal, the information will be pushed to the VTH display record. At the same time, the VTH will pull the video stream of the corresponding IPC according to the linkage rules and save it to the local SD card.

③ After the intelligent detection alarm of IPC is uploaded to VTH, the alarm signal will be linked.

Third-Party Connection | By SIA DC-09 Protocol

CMS/ARC

SIA DC-09

- **Docking Method**：Based on the general docking protocol SIA DC-09 for the alarm industry, the Hub is directly connected to the third platform software.

- **SIA DC-09 Protocol**：

  - A general network transmission protocol in the alarm industry, which is used for the alarm host to interface with the alarm receiving platform software for event transmission.

  - The alarm events transmitted by the protocol have four encoding formats: SIA-DCS, * SIA-DCS, ADM-CID, * ADM-CID (with * means data is encrypted, SIA-DCS means SIA data format, ADM-CID means CID data format), and Dahua uses ADM-CID and * ADM-CID.

  - AMD-CID has three transmission modes: PSTN, serial port and network. Currently, only SIA DC-09 is known based on network transmission.

Third-Party Connection | By SIA DC-09 Protocol

CMS/ARC

SIA DC-09

- **Advantage**：The application is mature and extensive (the alarm host and alarm receiving platform generally support this protocol), and the connection is simple and convenient (you only need to configure the IP address, service port number, and host account of the alarm receiving platform on the alarm host, and the host account is used when adding the alarm host on the platform), without adding additional workload.

- **Disadvantage**：1. The protocol is simple. By default, only event reporting is supported. The back control (arm/ disarm) operation needs to be customized, and new applications such as image transmission cannot be realized; 2. It will increase the burden of third-party platform management device heartbeat link.

- **Application**：There is a public network static IP, and an alarm receiving center with servers and alarm receiving software is deployed. It is only used for simple event receiving applications.

Third Party Connection | By Converter
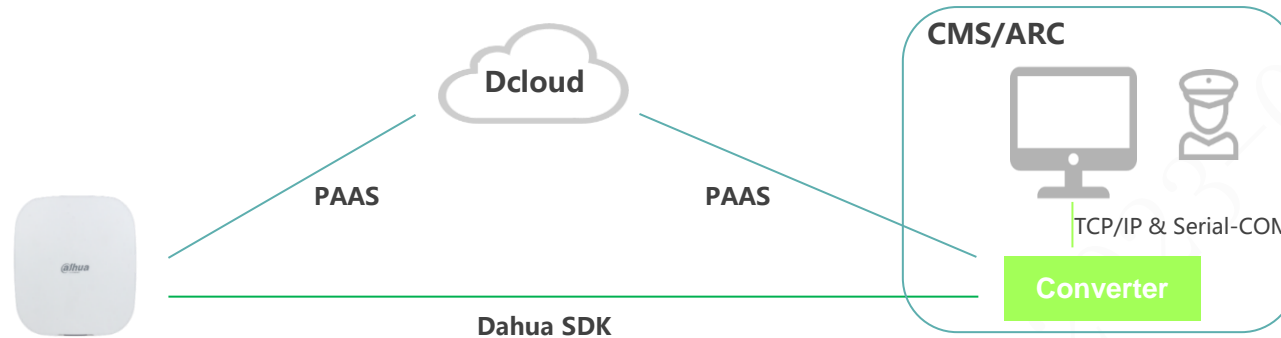
- **Docking Method**： The Hub accesses the middleware Converter directly or through the Dcloud forwarding. The Converter forwards the received event filtering to the third-party platform through the network port or serial port according to the protocol requirements of the third-party platform.

- **Advantage**： 1. Reduce the burden of heartbeat management and data processing of third-party platform equipment; 2. The third-party platform can save network costs by eliminating the need for public static IP; 3. It can realize more new business applications, such as image transmission and coordinate transmission.

- **Disadvantage**： It will involve the development and compatibility of some tripartite protocols, which will be maintained continuously in the later period.

- **Application**： Three party platform software is not all scenarios except cloud platform.

CONTENT

1

Products & Solution Overview

2

Debugging

3

FAQ

Debugging | Overview

- Add wireless gateway under AP mode
- Add accessories
- Check accessories status and configuration
- 2G/4G setting
- SIA protocol configuration
- APP remote arm/disarm
- Alarm notification on app
- Phone and SMS linkage
- Alarm linkage with video
- Scheduled arming/disarming
- Device sharing

Wireless Gateway Under AP Mode
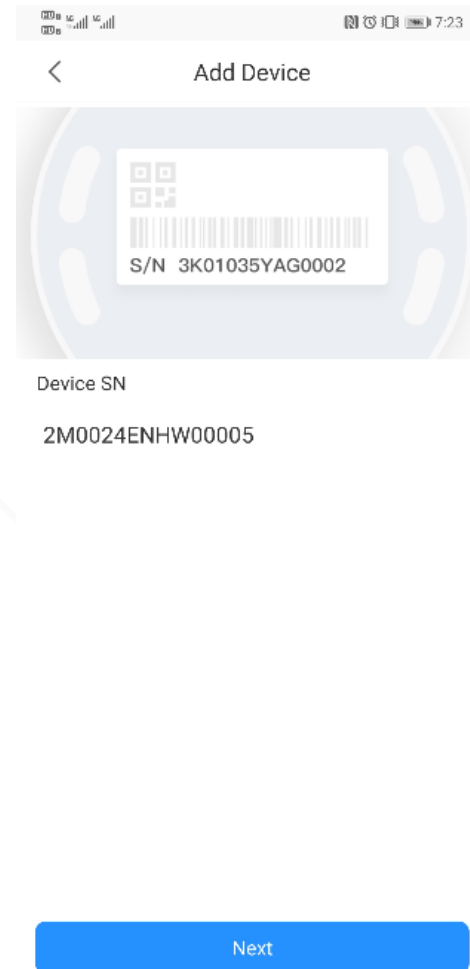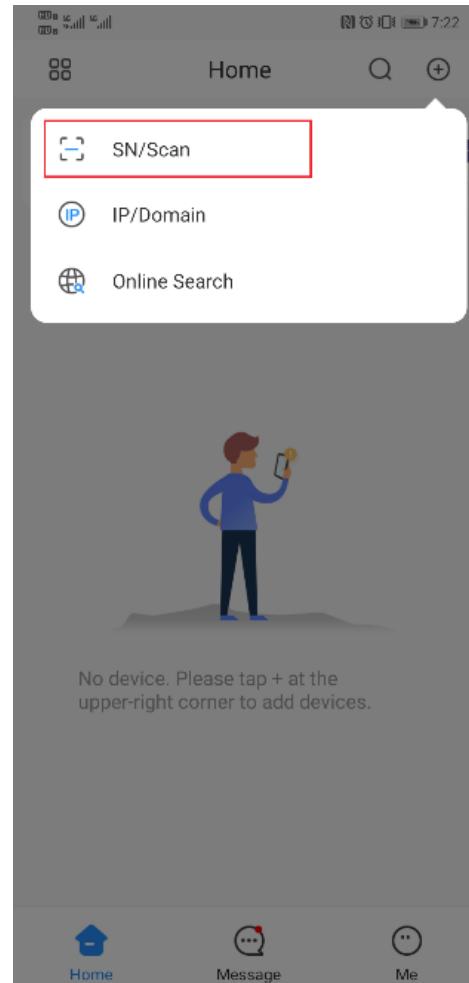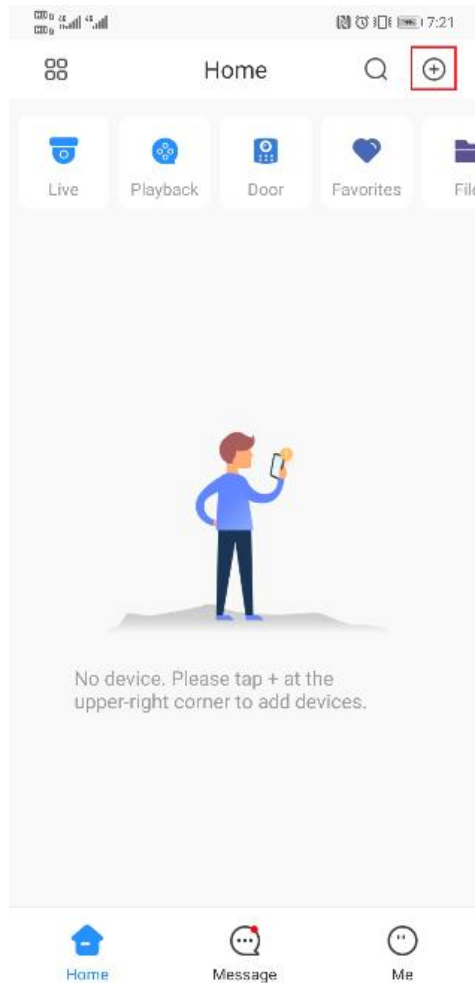
1. Open DMSS app, register/ login the account. Scan the QR code on device or input SN manually. Initialize the device, set username and password. There we go to AP connection mode setting by default.

Wireless Gateway Under AP Mode

2. Set STA to AP and enter AP mode(by default), add network connection(blue light flickering in device).

3. Use mobile phone to connect hotpot of the gateway, which is named by "AlarmStation- device SN".

Wireless Gateway Under AP Mode
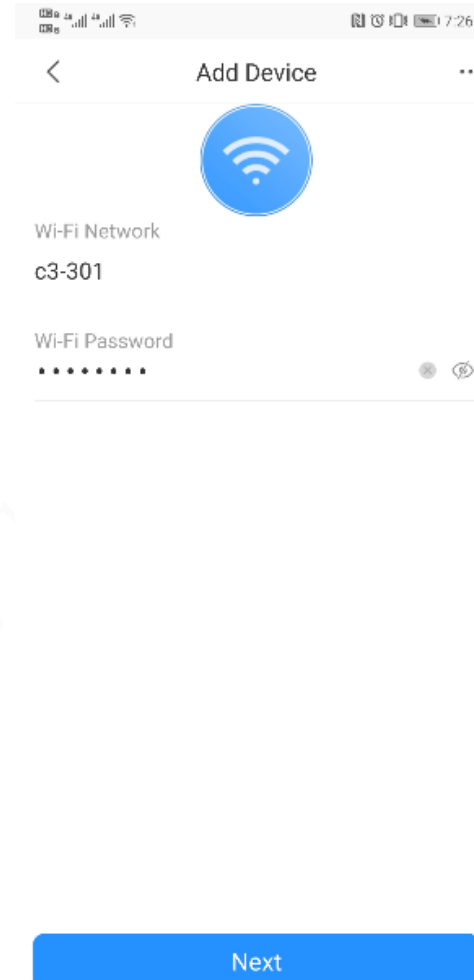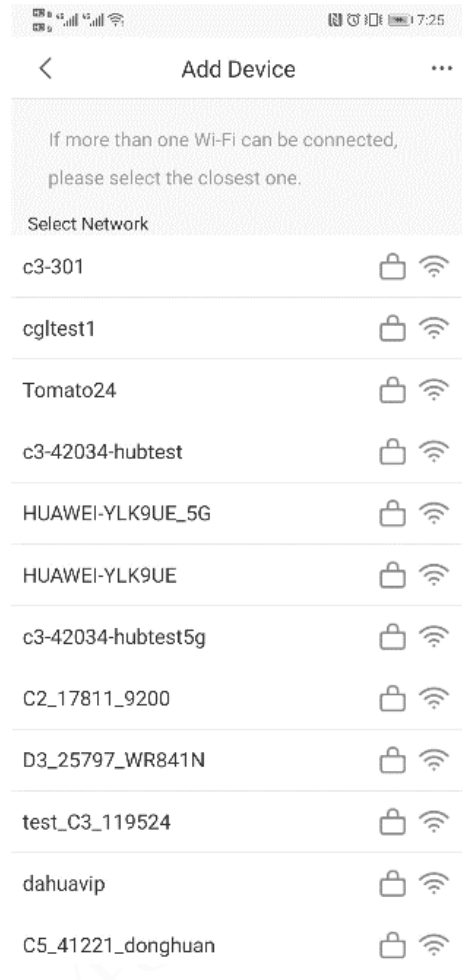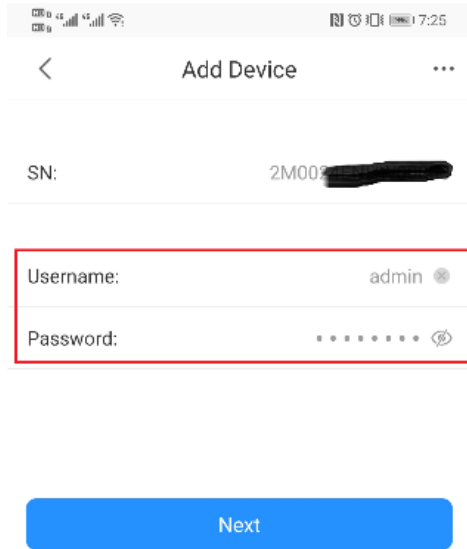
4. Input device username and password.

5. Search for nearby WIFI. After connecting to the target network, input WIFI password.

Wireless Gateway Under AP Mode
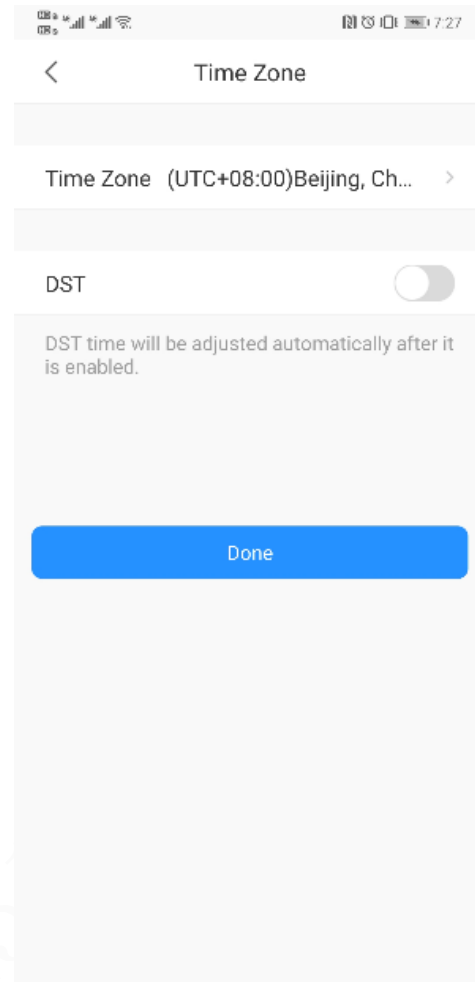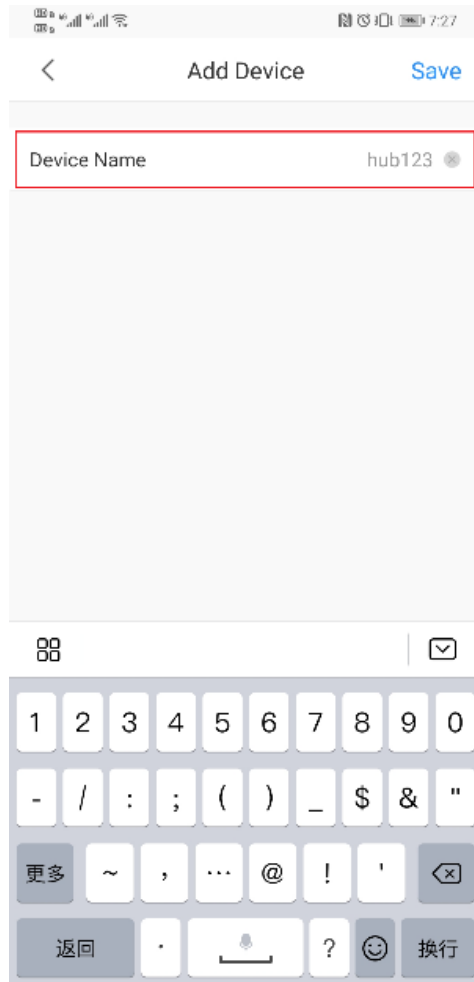
6. Set AP back to STA on device (the indicator light becomes green (yellow) light always ON). After connecting to WIFI successfully, the light becomes green (yellow) light flickering.

7. Input username and password, add device to app, set device time district and finish.

Wireless Gateway Under AP Mode
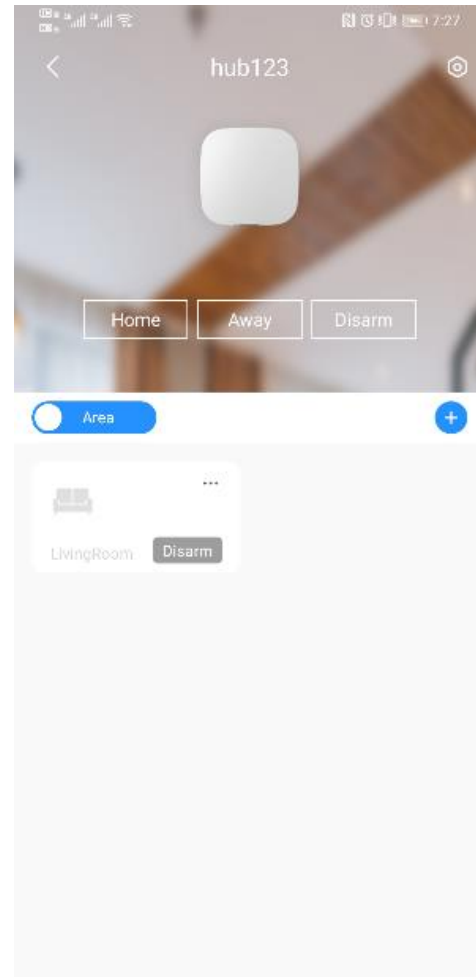
Adding is done, the gateway will display on main interface, choose corresponding gateway to configurate and arm/disarm.

Add Accessories

1. Scan QR code or input SN manually.
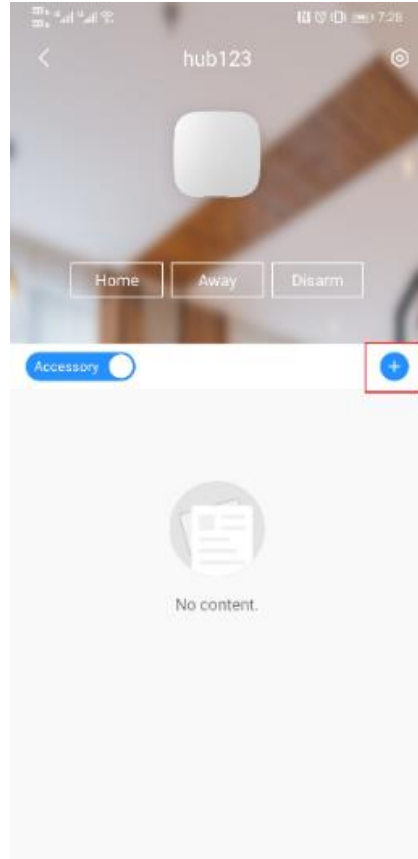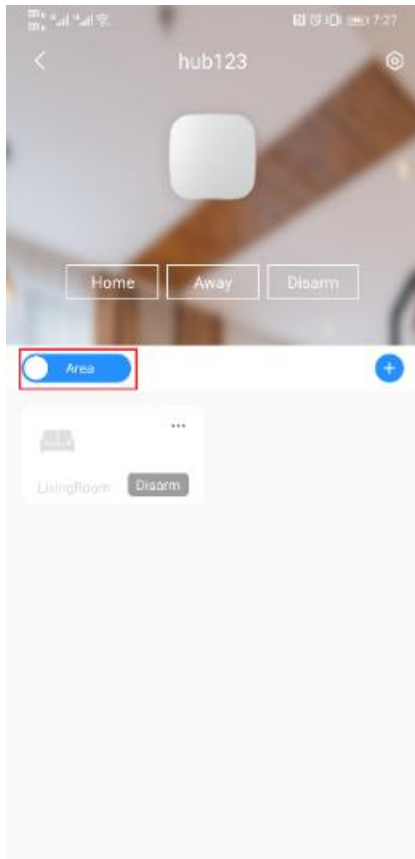
Add Accessories
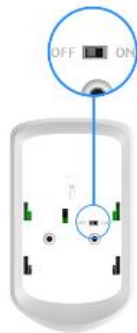
2. Choose the gateway to be joined for the accessories.

3. The gateway indicator changes to a blue light with quick flashes to enter the pairing mode. Turn the DIP switch from OFF to ON to enter the pairing mode. At this time, the accessory indicator becomes green light flickering (At the same time, you can double-click the gateway power button to make the gateway enter the pairing mode, skip the process of scanning the QR code to add a gateway.)

Add Accessories
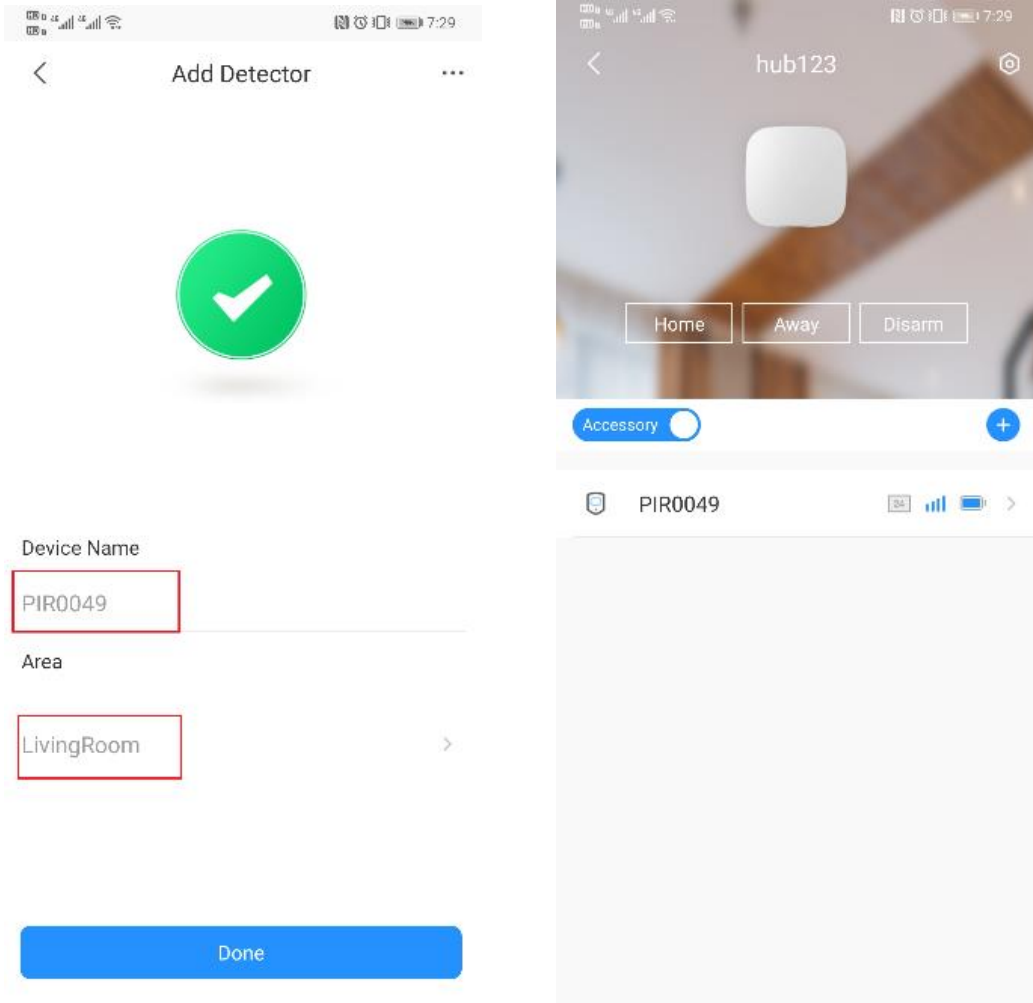
4. Edit the detector name, and choose the room that the detector is in to finish adding accessories. The accessories will display under related gateway when it's done.

2G/4G Setting
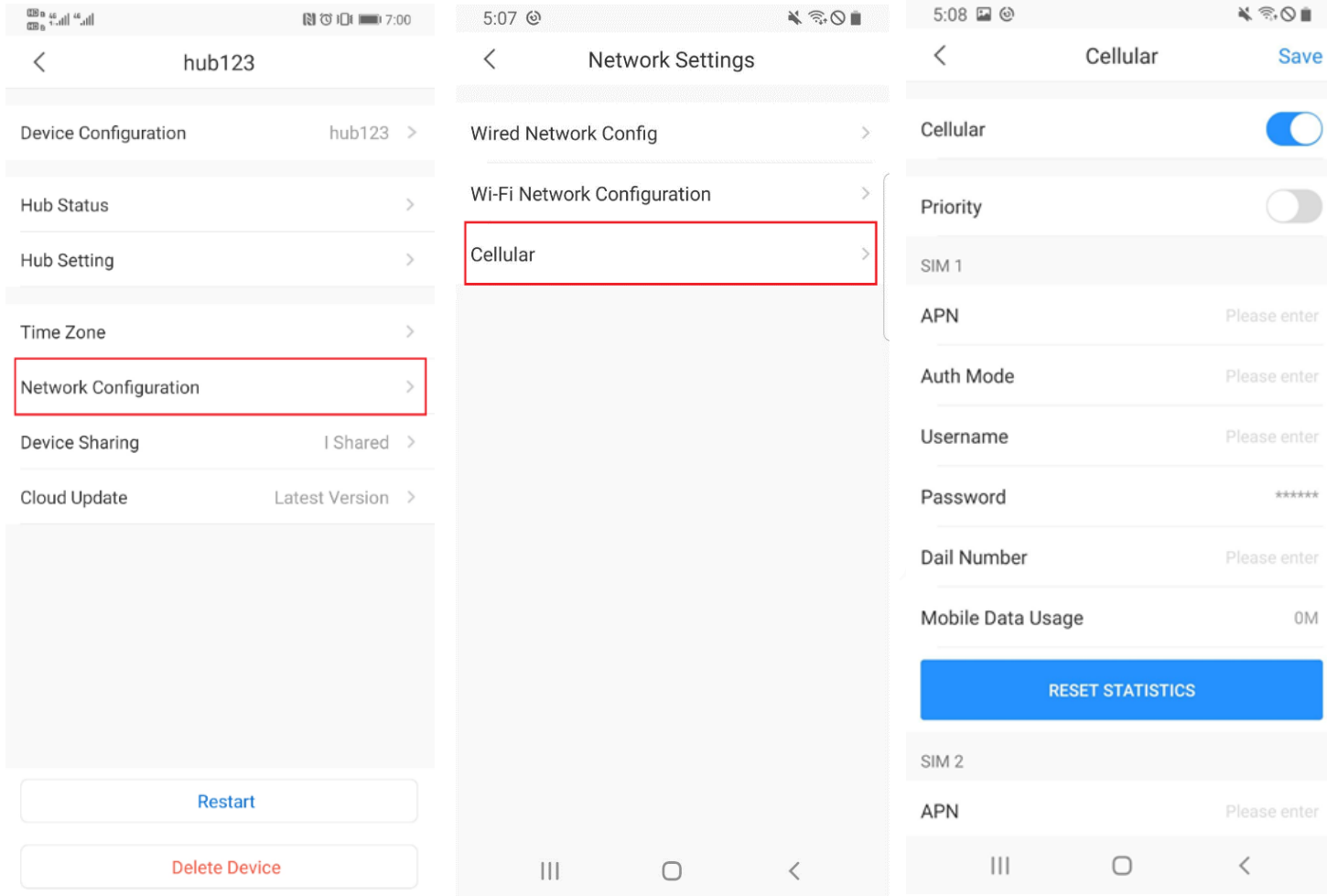
1. Choose the gateway to enter device configuration page, and go to network configuration.

2. Choose Cellular, finish the detailed dial parameters according to specific ISP requirement on site. If enable "Priority" then cellular network will be chosen as premiere.

2G/4G Setting
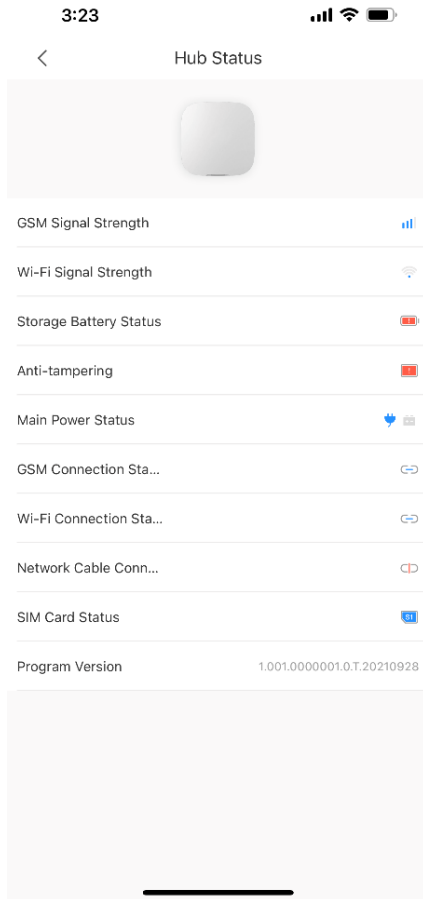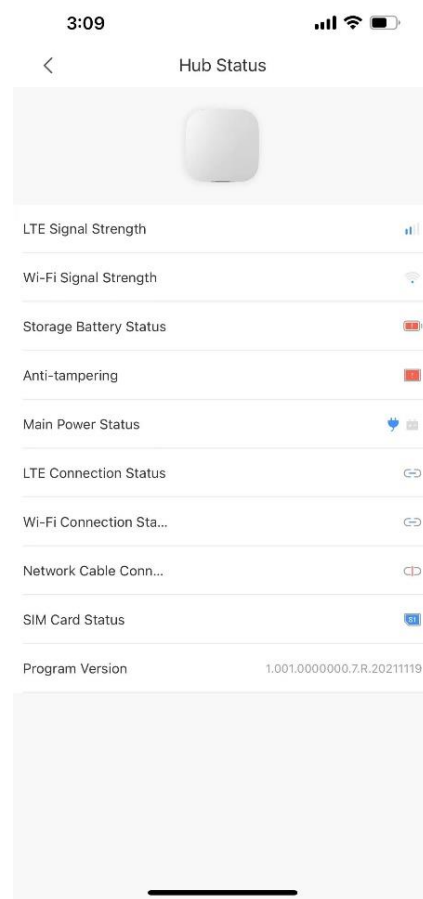
2G Connection – GSM   4G Connection – LTE
Fig.1 gateway 2/4G dialing status

After configuration is done, we can enter gateway status interface to check dial status. There are two SIM card slots. For example, we insert SIM card in slot 1, then SIM card status will show S1. GSM Connection Status will show connected after 2G dialing successfully. LTE Connection Status will be connected after 4G dialing is successful.

SIA Protocol Configuration

1. Enter device configuration page, enter gateway configuration and go to monitoring station.

2. Enable it, set upload events within allowed time and so on.
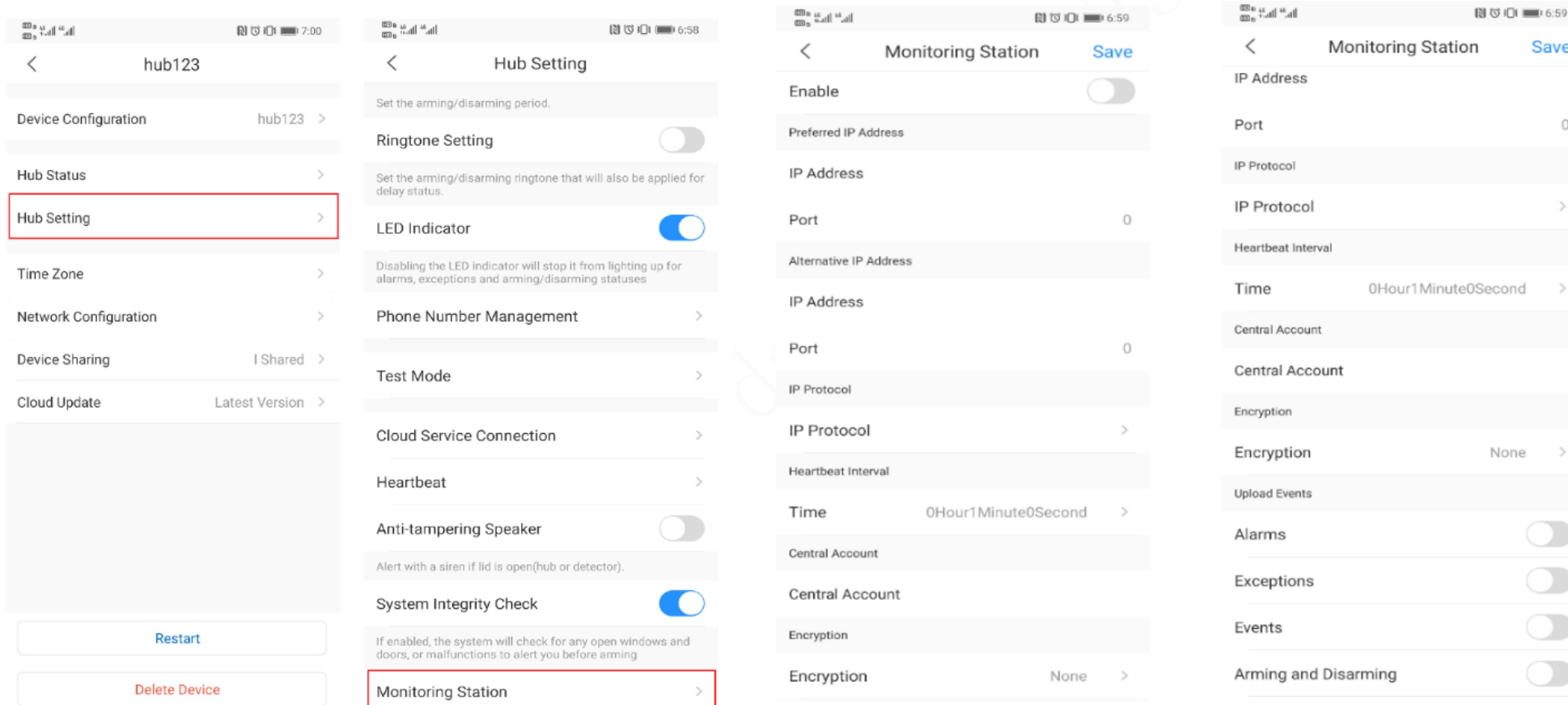
APP Remote Arm/Disarm
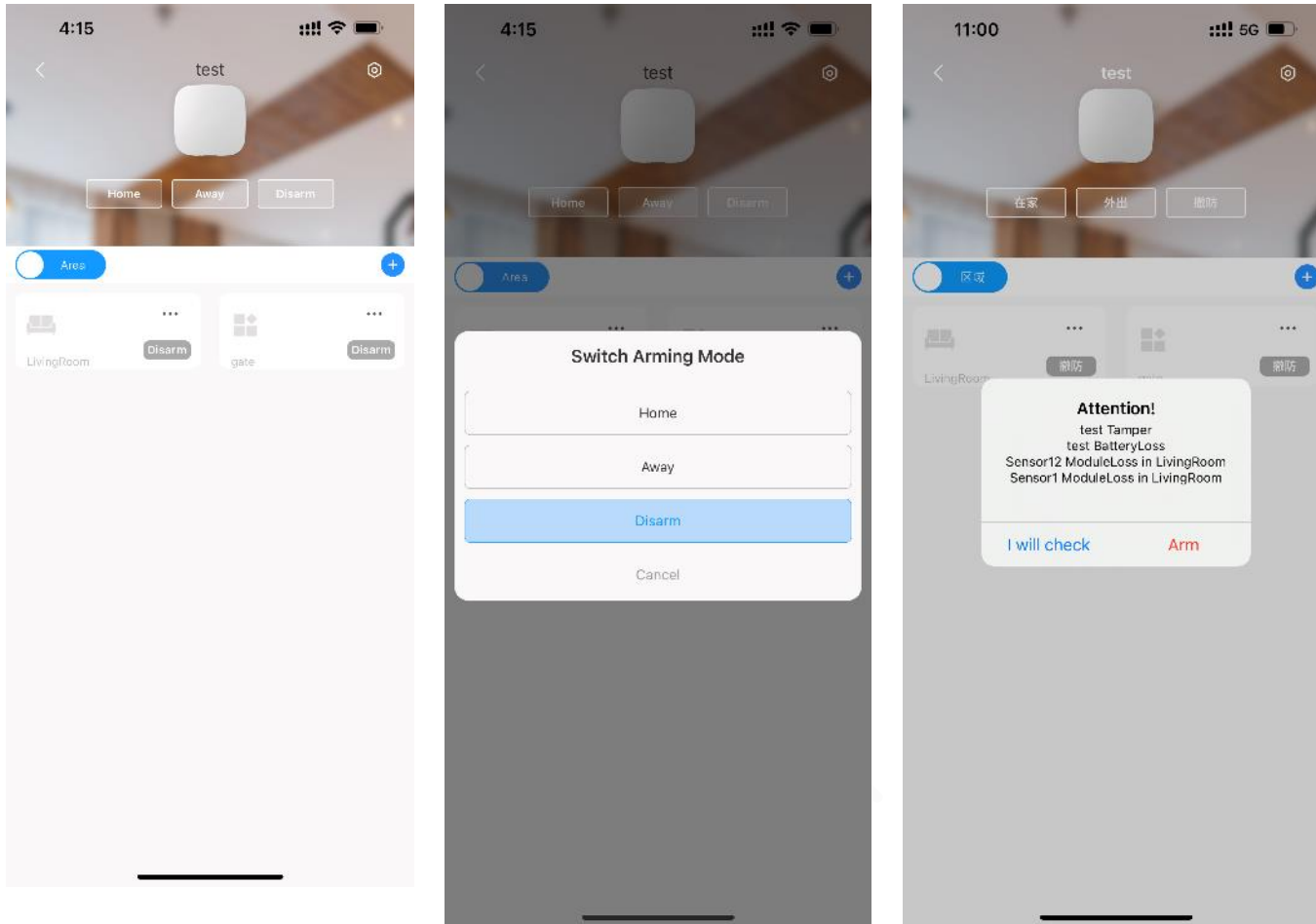
1. Click to enter the wireless gateway interface, select home and away arming in the below to arm and disarm the wireless gateway globally. When the wireless gateway has system abnormalities such as tampering, battery power failure, etc., a pop-up window will appear when arming, click "arm" to force the gateway to arm.

2. Click the arm and disarm button in the lower right corner of the specific room and select the "home" or "away" mode to arm and disarm the room (which can be regarded as a subsystem).

APP Remote Arm/Disarm

Fig2. Global arm successfully

Fig3. Arm/ disarm to for single room
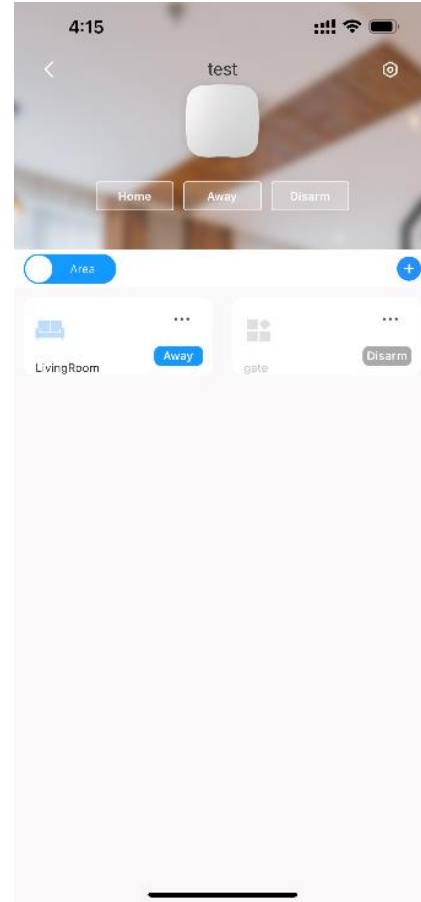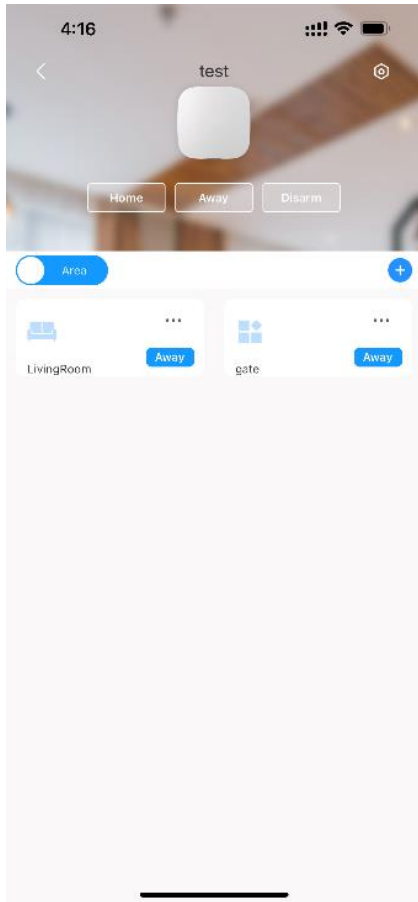
After arming successfully, the indicator light on the gateway will turn to a steady blue light, and if the alarm gateway indicator light will turn to a red light if alarm is triggered.

Alarm Notification On App
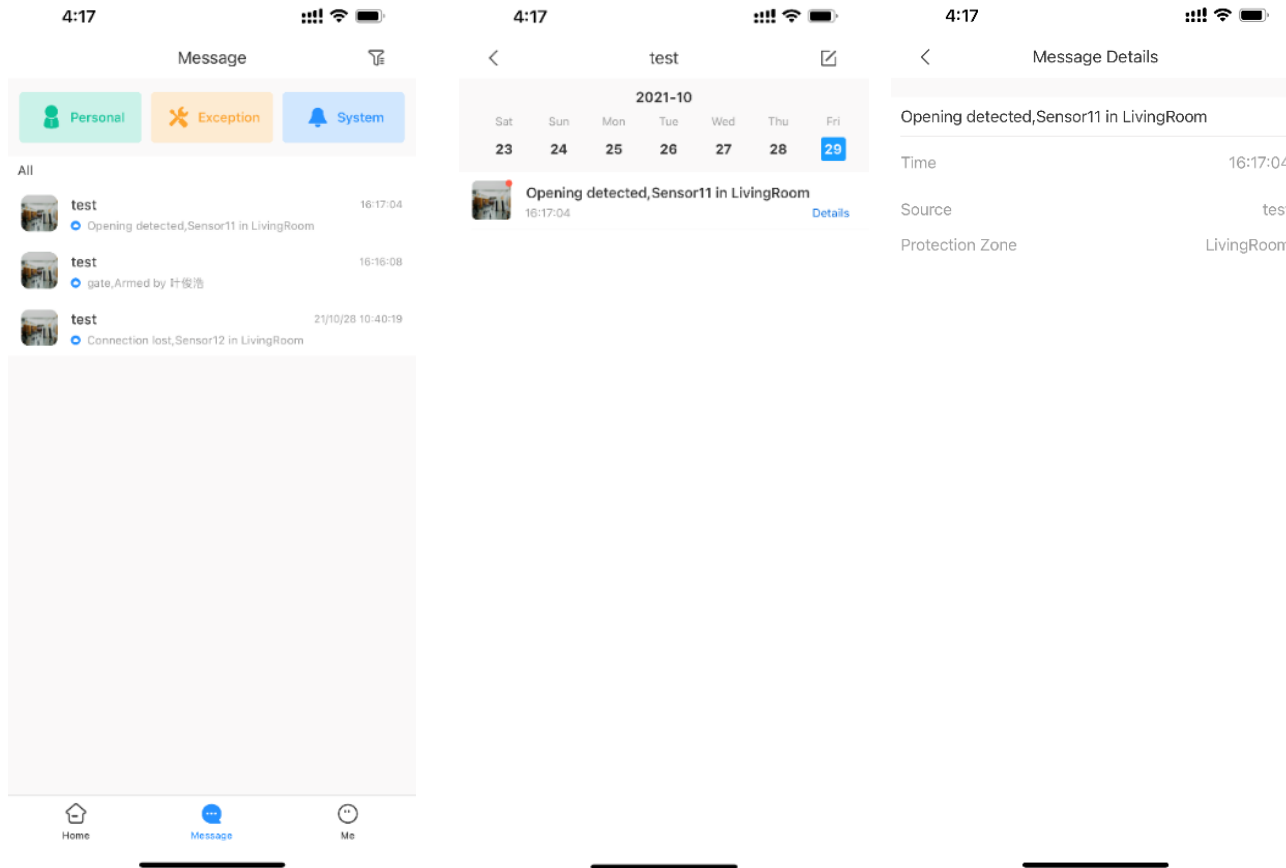
1. Go to message to check alarm notification.

2. Click on the message to enter the message interface classified by date.

3. Click details to view the specific information of the alarm message.

Phone And SMS Linkage
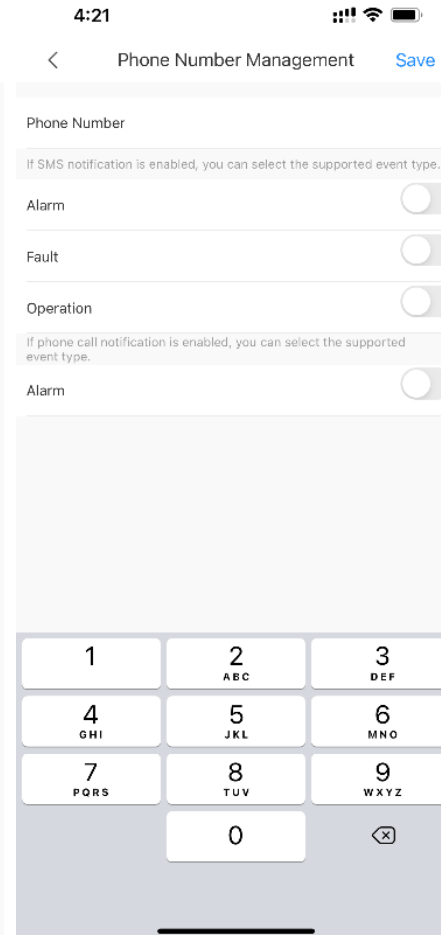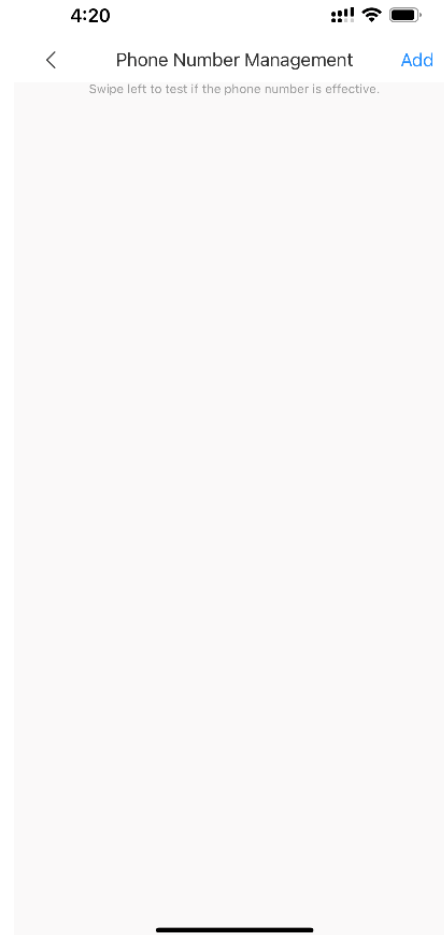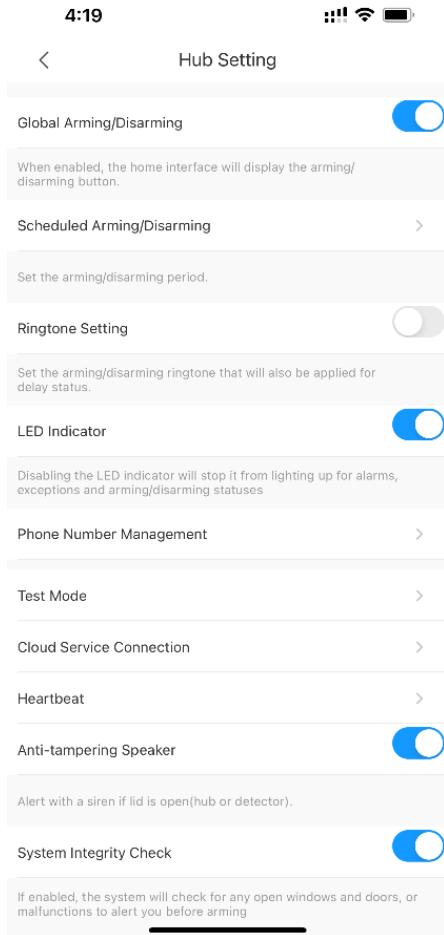
1. First make sure gateway dialing successfully, and choose Phone Number Management in Hub Setting.

2. Tap Add to add new user phone number.

3. Input phone number and enable SMS notification or phone call prompt if need.

Phone And SMS Linkage
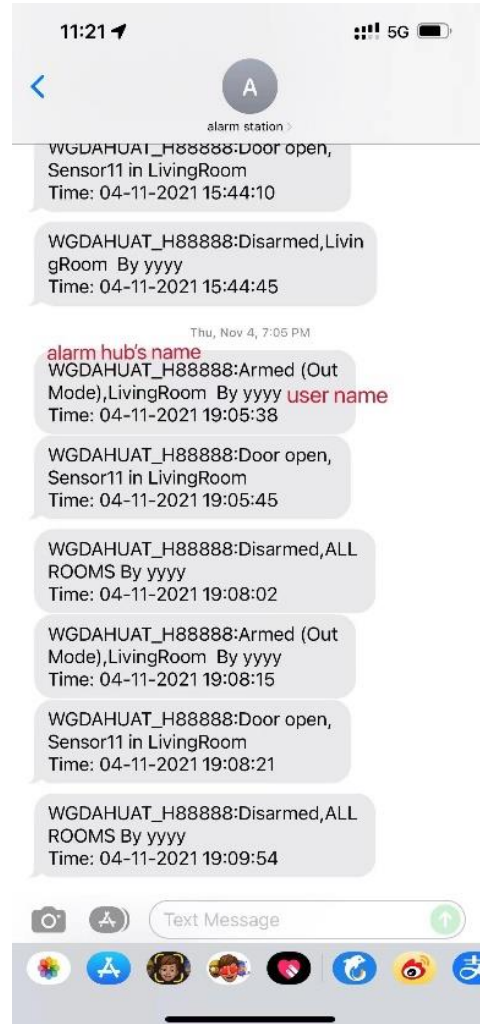
4. After the configuration is completed and all are enabled, a text message will be sent to the added mobile phone number when the alarm is triggered, arming or disarming, and system failure, as shown in Figure 5 below. At the same time, when the alarm is triggered, there will be a phone call to the added number.

Phone And SMS Linkage
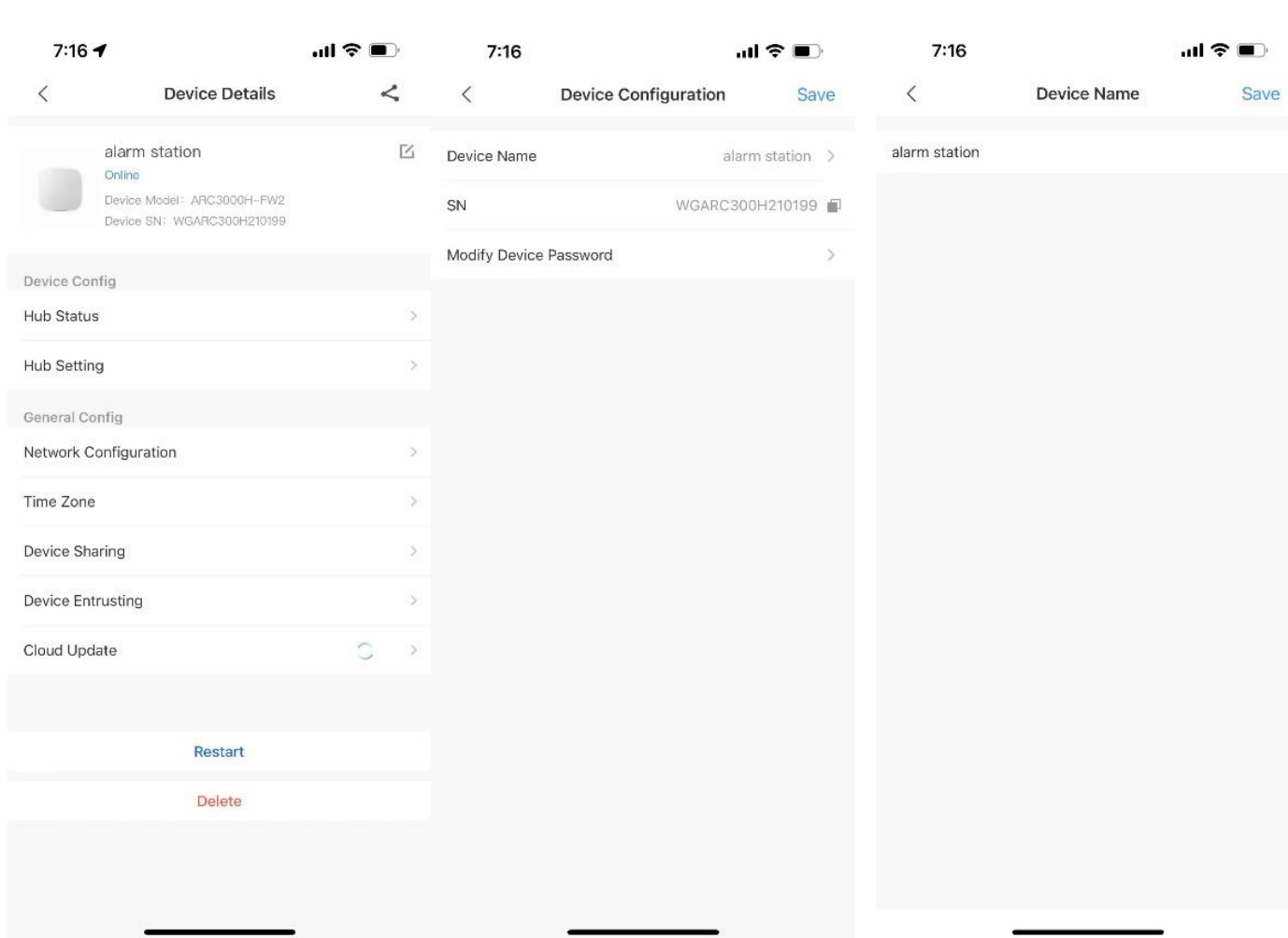
5. Tap the ✎ icon in the upper right corner of the gateway details interface, select Device Name to modify the gateway name and save it, return to the main interface of APP, tap "My", and modify the username.

# Phone And SMS Linkage
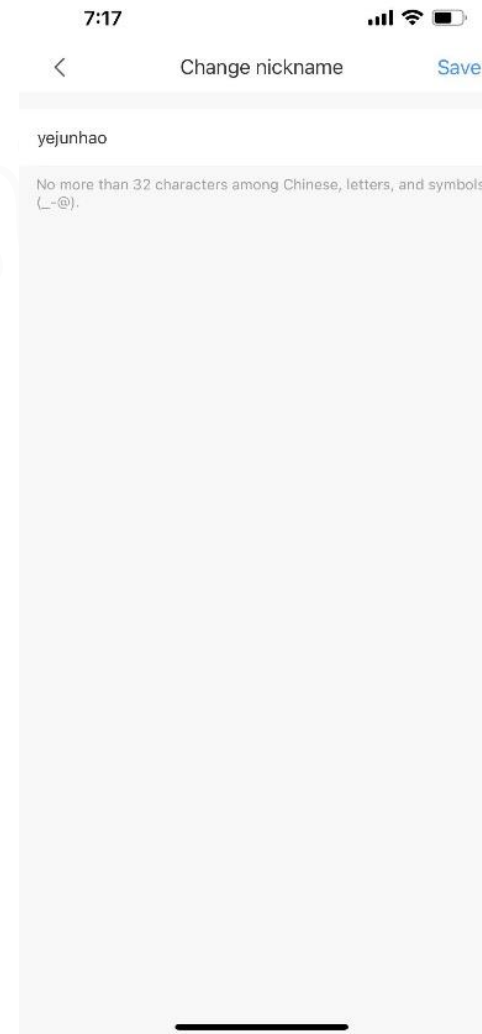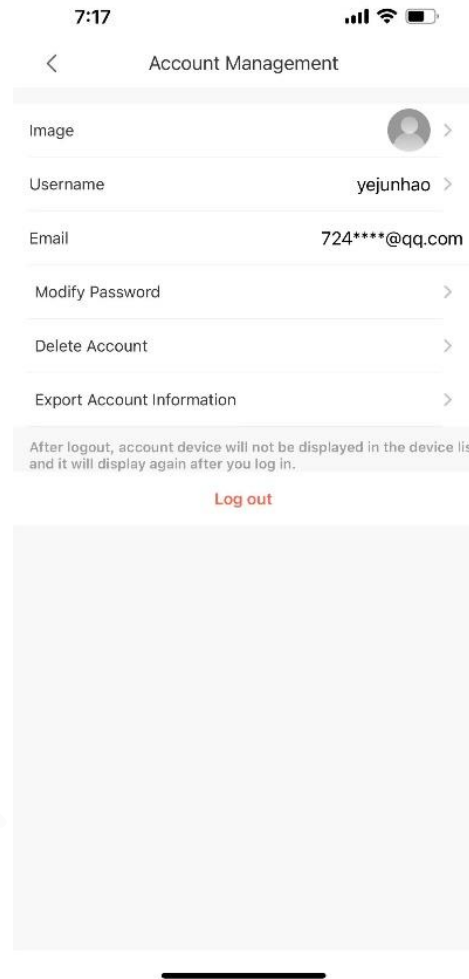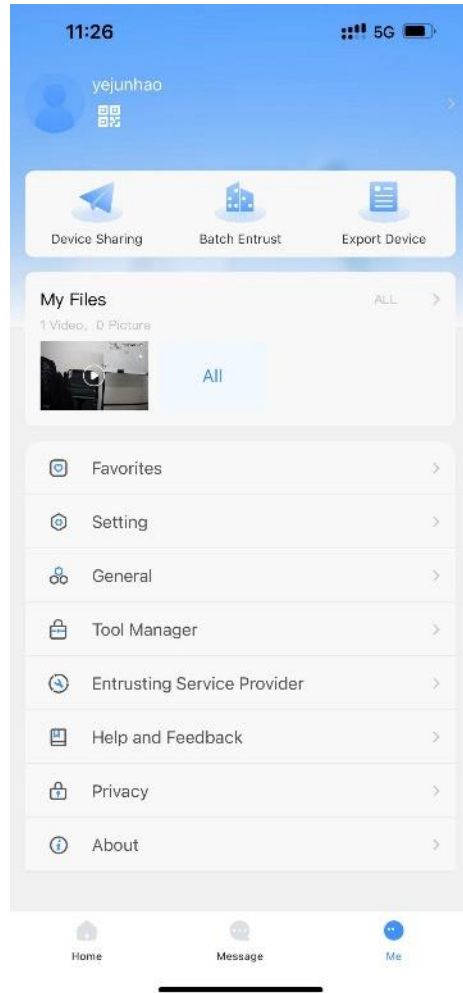
Phone And SMS Linkage
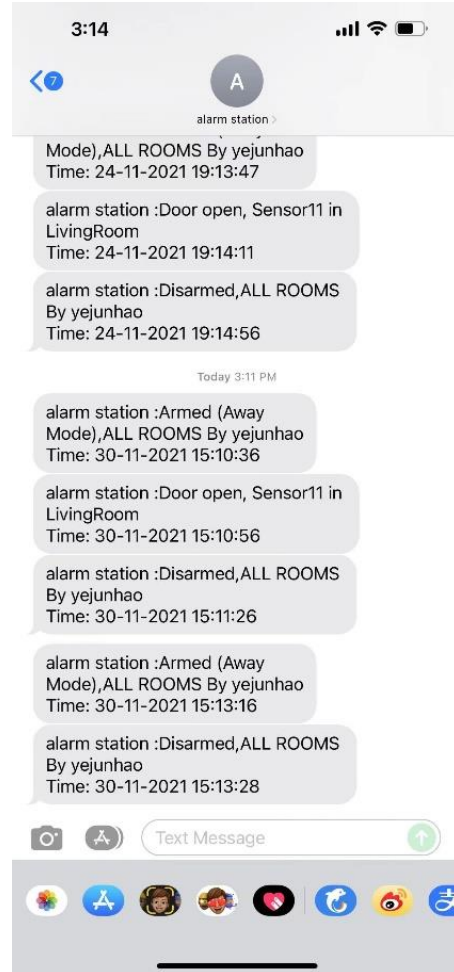
Figure 6

After modifying the username and gateway name, the text message sent by the alarm linkage short message is shown in Figure 6 below. You can see that the prompt text message sent now has the gateway name changed to alarm station and the user name changed to yejunhao.
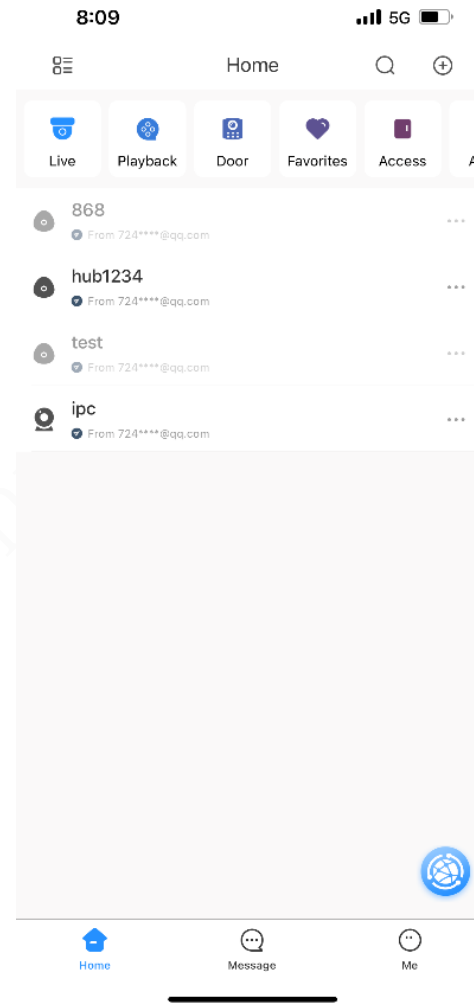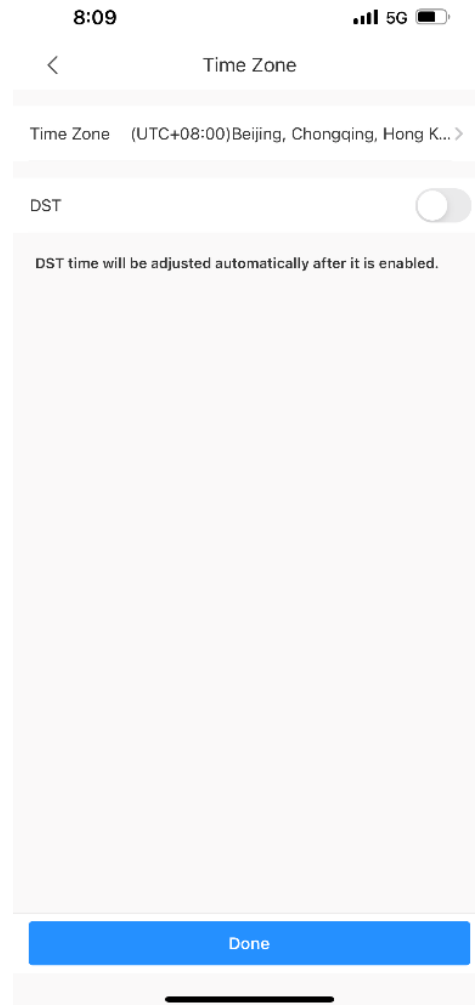
Alarm Linkage With Video

1. Before adding, make sure that the IPC has been connected to the public network and the P2P has been enabled (open it on IPC web). Scan the code to add an IPC according to the method of adding a gateway. After scanning the serial number, select the corresponding IPC type, enter the username and password, and set the IPC name. Tap OK and select the time zone to complete.

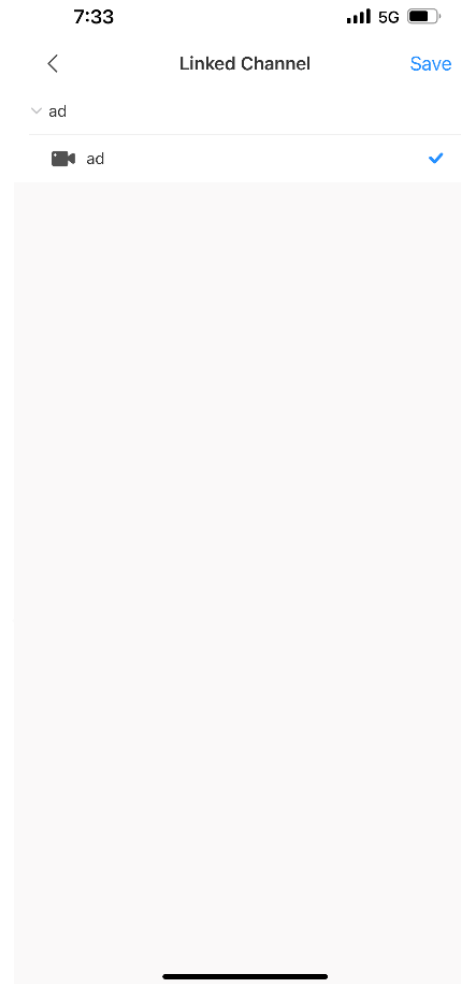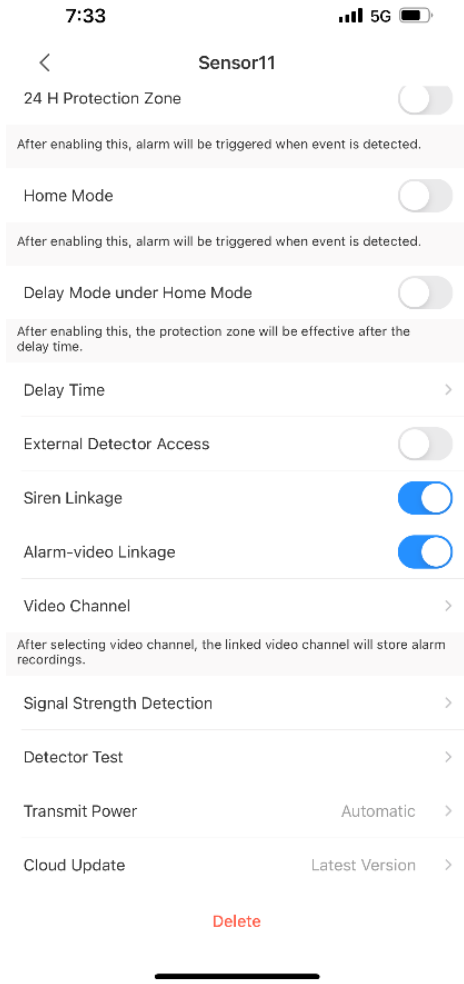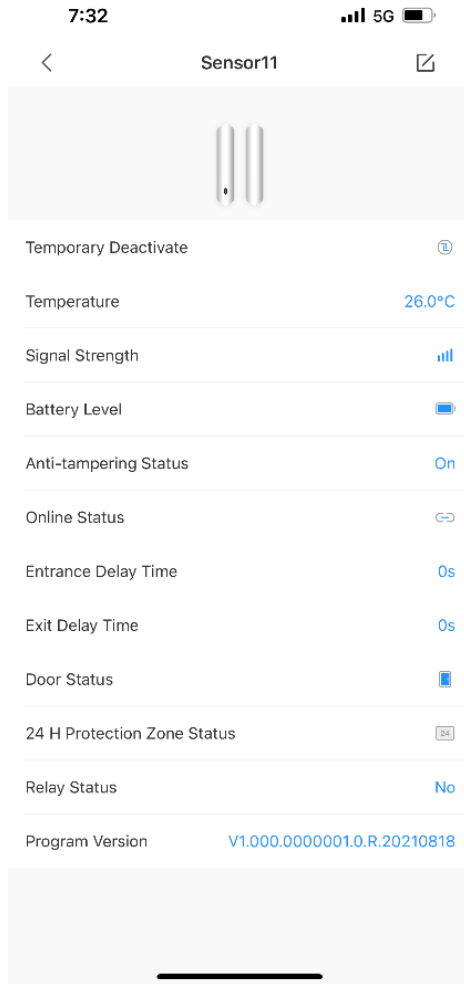2. Open IPC setting and turn "Disable Alarm Linkage" on.

Alarm Linkage With Video
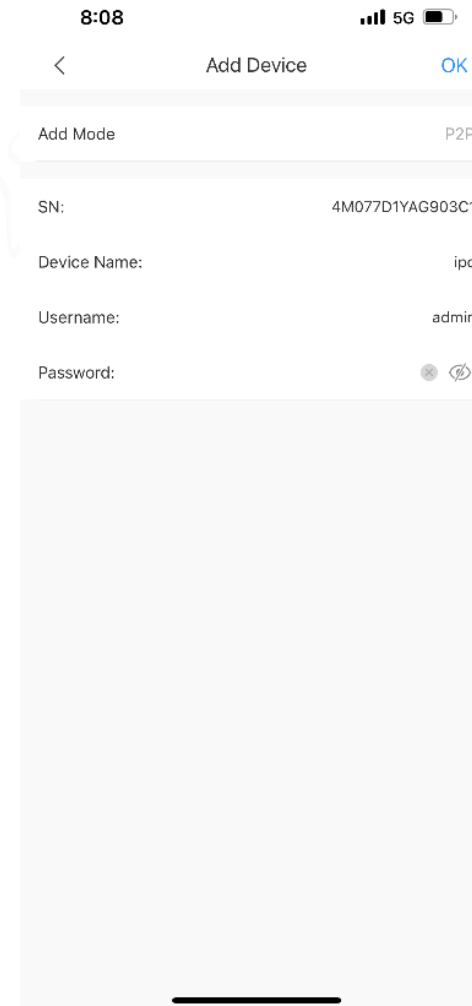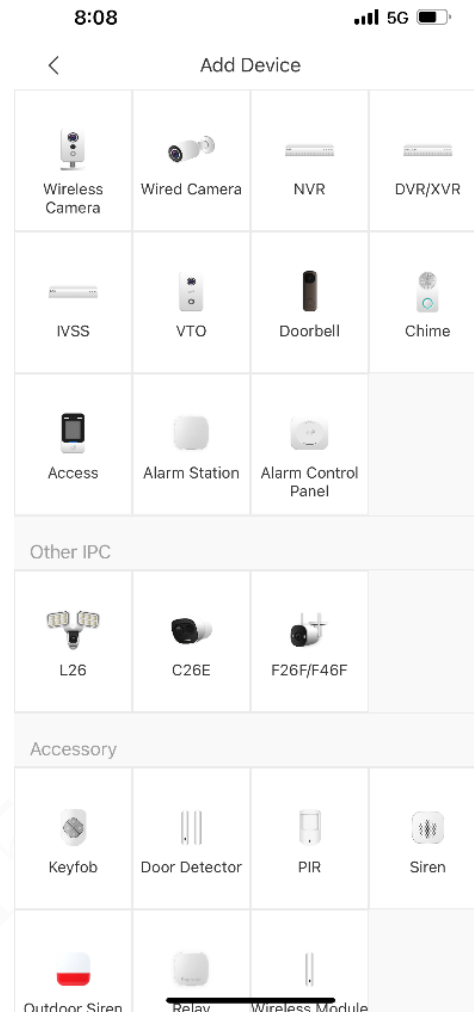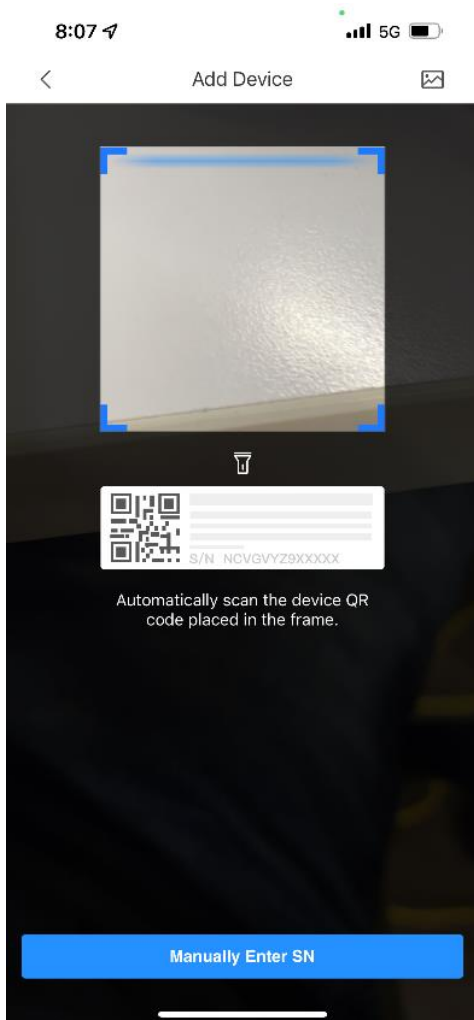
Alarm Linkage With Video

Alarm Linkage With Video

3. Select detector to be linked and enter sensor setting.

4. Tap ✎ icon in sensor details, choose Video Channel and select IPC to be linked.
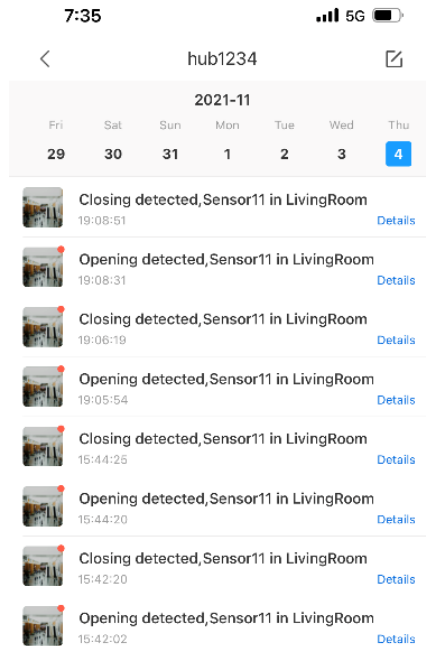
Alarm Linkage With Video
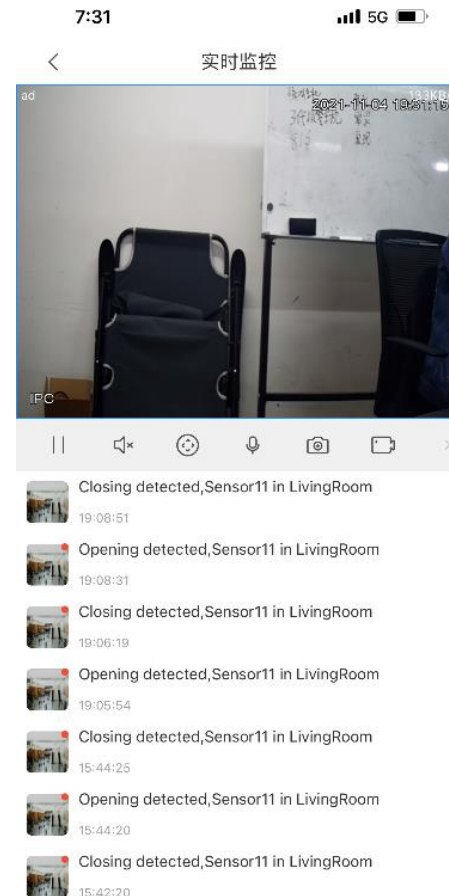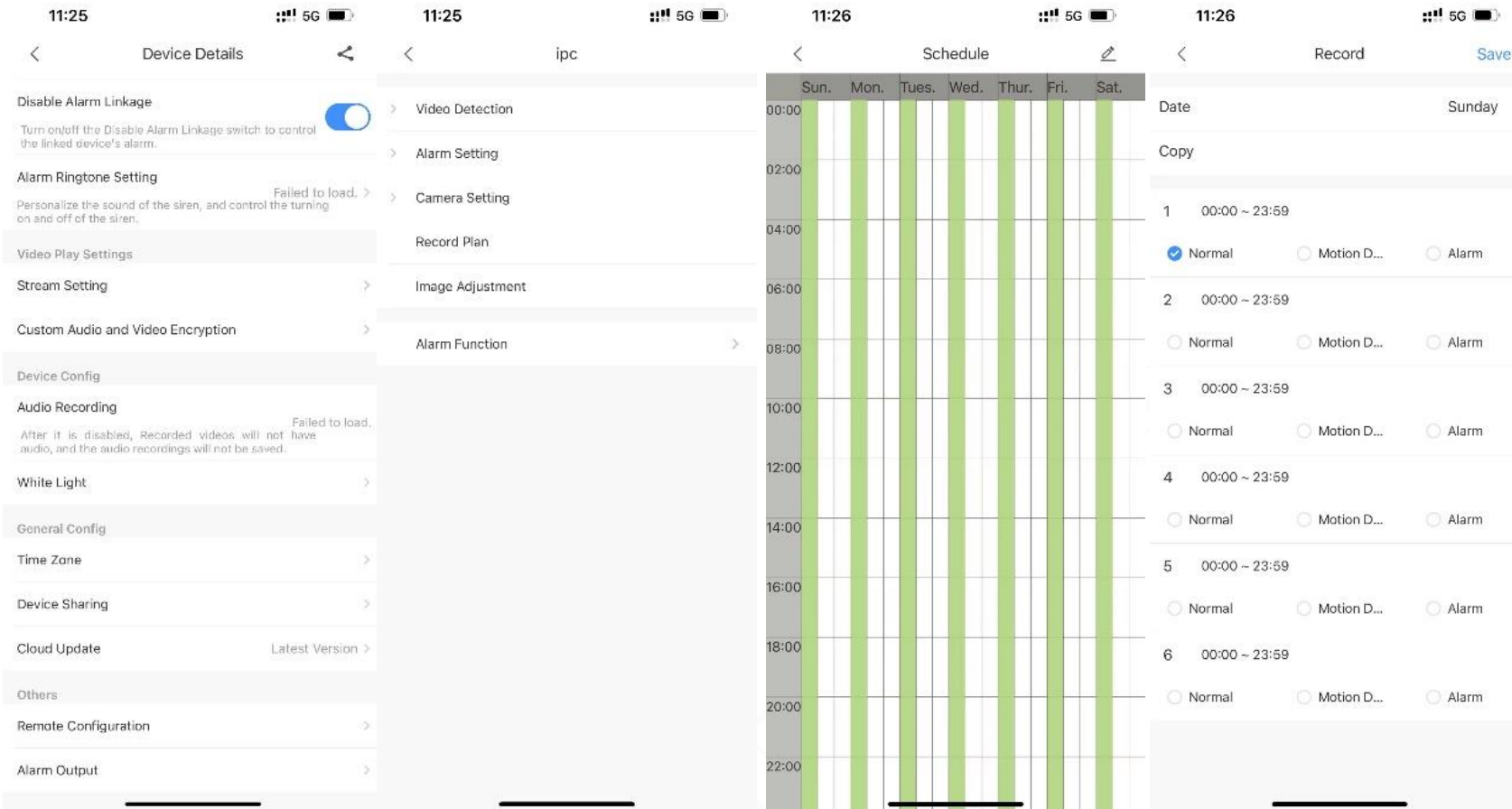

Fig.8 alarm notification push

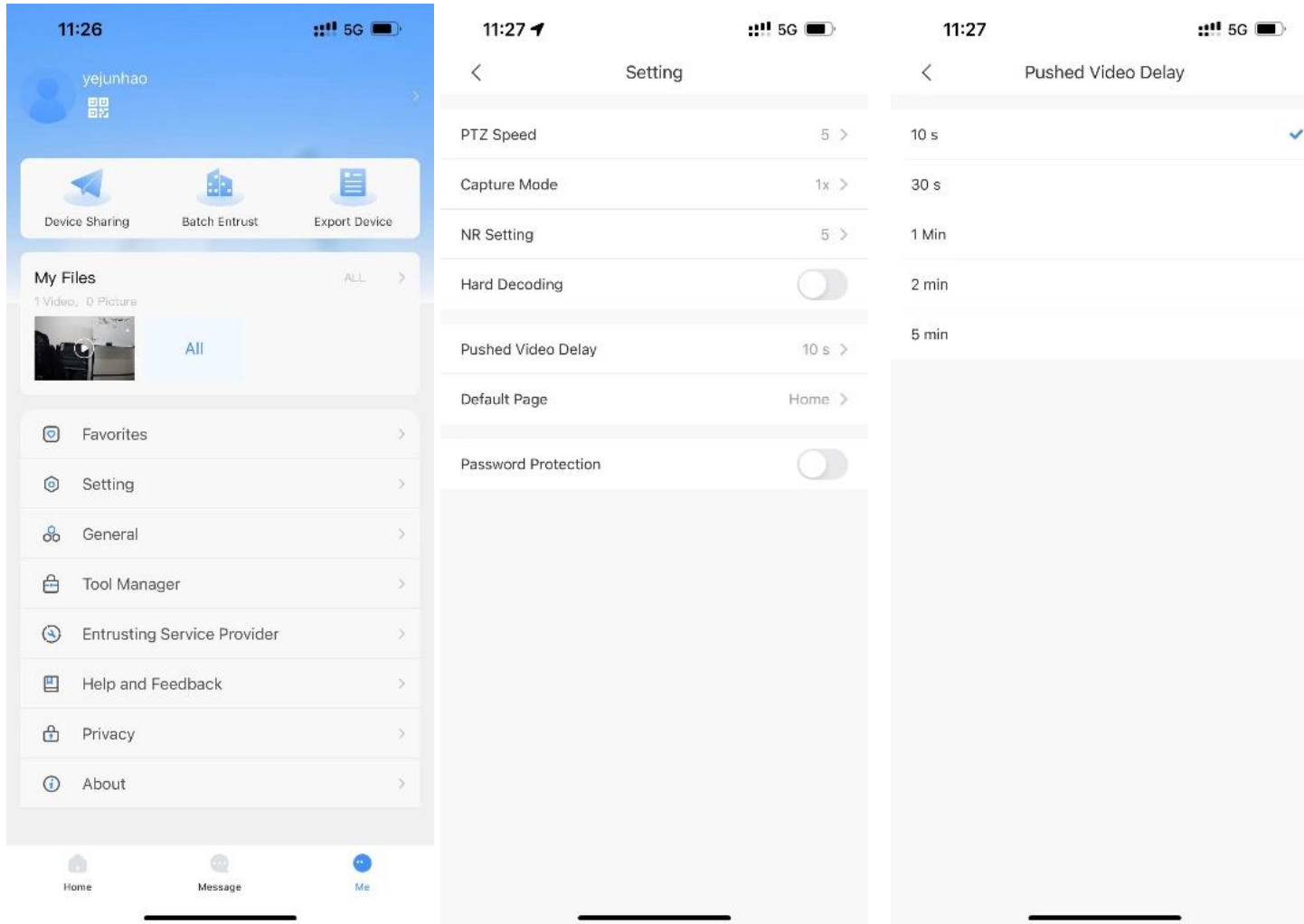Fig.9 alarm linkage with real-time video

After the configuration is done, trigger the corresponding detector alarm and open the alarm message push interface, as shown in Figure 8, click on the leftmost icon of the alarm message to view the real-time IPC screen (if the IPC is inserted into the SD memory card, you can view the alarm Real-time video) as shown in Figure 9 below.

Alarm Linkage With Video

5. First, you need to insert a memory card in the IPC. Enter the IPC device details interface and select Remote Configuration. After selecting Record Plan, enter the recording plan editing interface. Click the ✎ icon in the upper right corner, and select the time to record the video from Monday to Sunday according to requirements. (The sample recording plan is set to record all time from Monday to Sunday).

Alarm Linkage With Video

6. Enter "My" interface of the DMSS program. Enter the Setting interface, select Pushed Video Delay, and set the alarm push message recording time. There are 5 choices: 10s, 30s, 1min, 2min, and 5min. The time here is set to the video recording time after the alarm occurs, and the pre-alarm before the alarm occurs. The recording time is a fixed 10s.

Alarm Linkage With Video
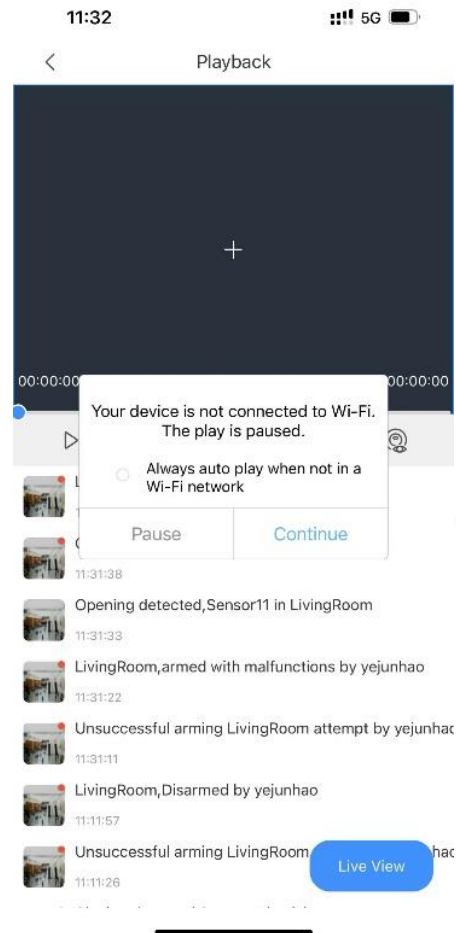

Fig.10 Alarm notification

Fig.11 Alarm details

After the configuration is done, trigger the corresponding detector alarm and open the alarm message push interface, as shown in Figure 10 below, click the leftmost icon of the alarm message, and enter the message interface as shown in Figure 11, click Continue to view the alarm video.
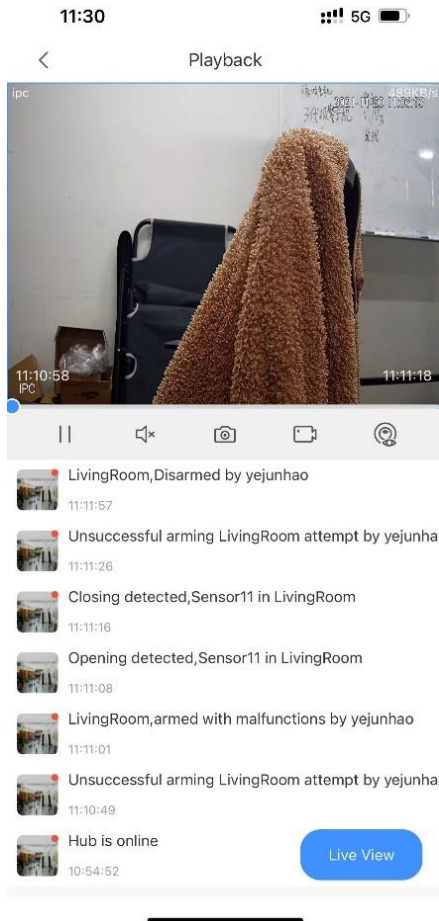
Alarm Linkage With Video
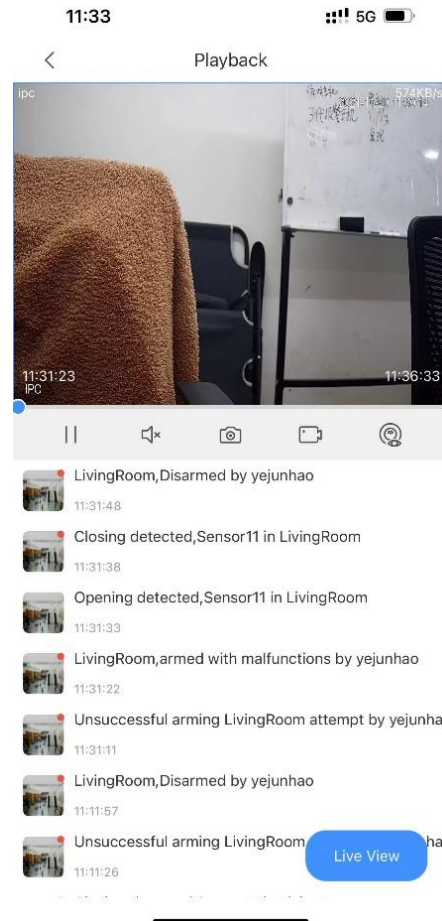

Fig.12 Alarm record push duration is set as 10 secs


Fig.13 Alarm record push duration is set as 5 mins

Here we set two examples of push duration. The push duration is set to 10s as shown in Figure 12. The alarm trigger time is 11:11:08, the recording start time is 11:10:58, and the recording end time is 11:11:18 , The recording duration is 20s; the push duration is set to 5 minutes, as shown in Figure 13, the alarm trigger time is 11:31:33, the recording start time is 11:31:23, and the recording end time is 11:36:33, recording The duration is 5 minutes and 10 seconds.

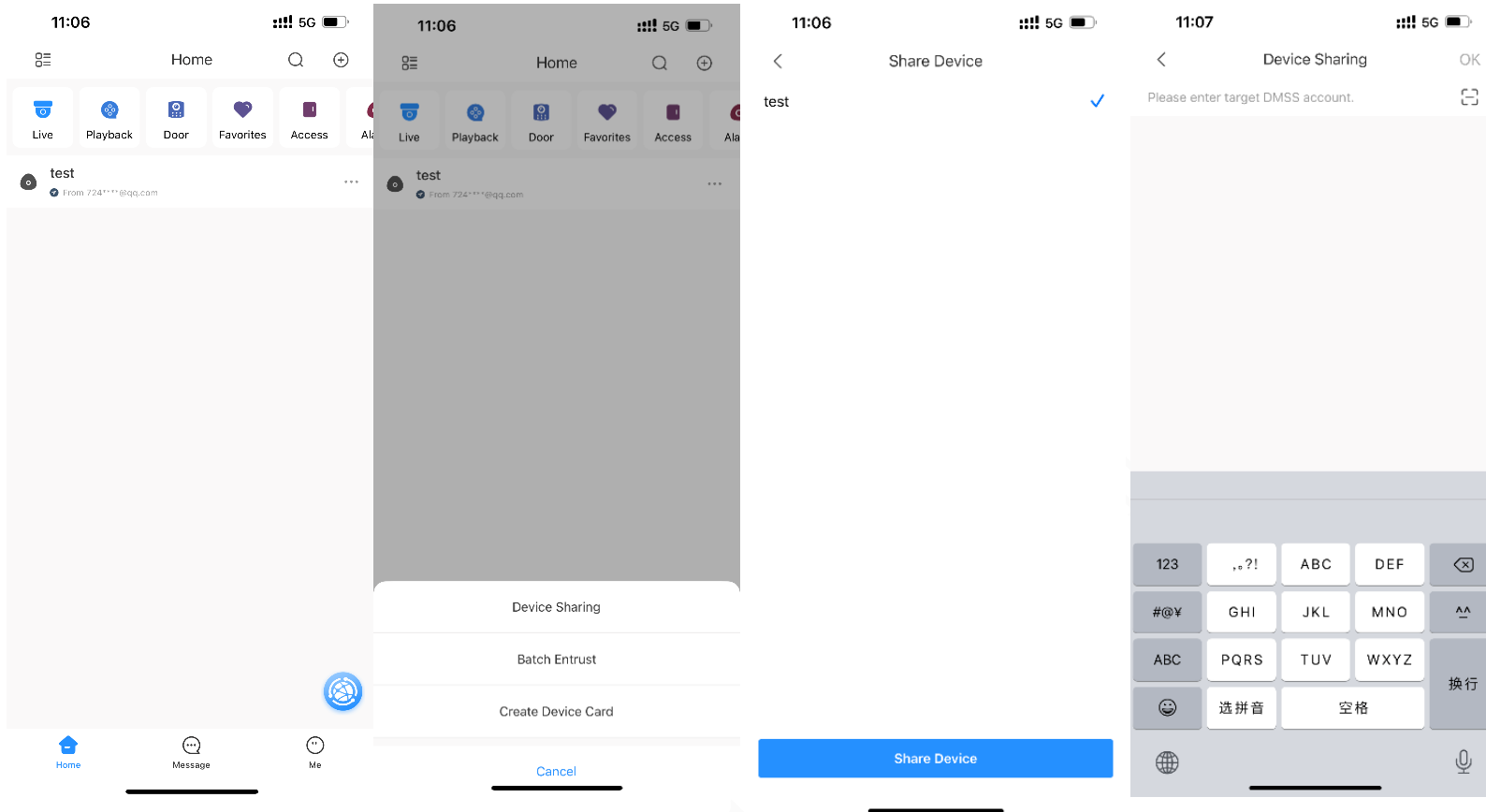# Scheduled Arming/Disarming
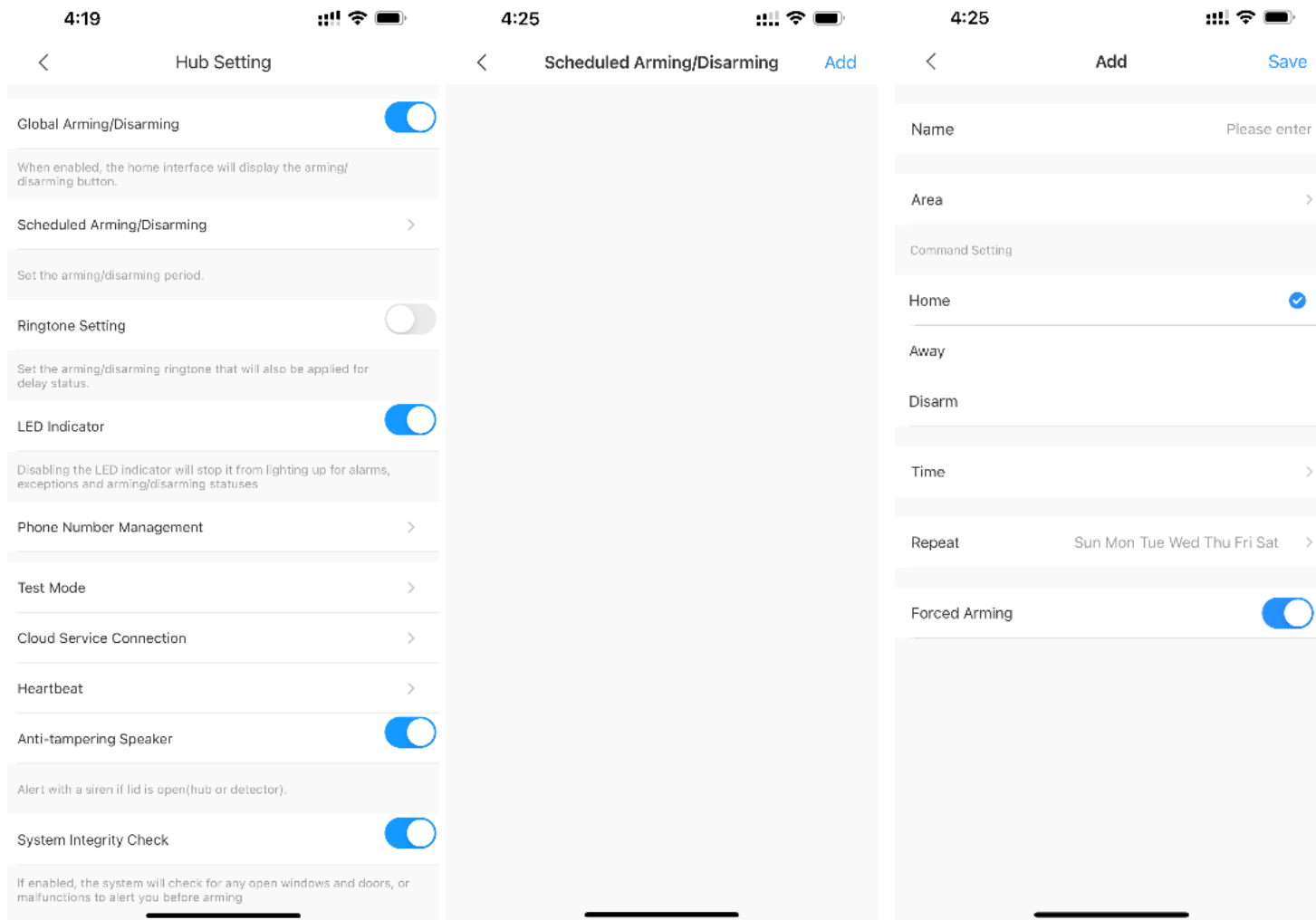
1. Go to gateway setting and choose Scheduled Arming/Disarming

2. Add scheduled arming/disarming plan

3. Edit the schedule name, corresponding room, command situation, time (or repeat by specific time) if required.

Scheduled Arming/Disarming
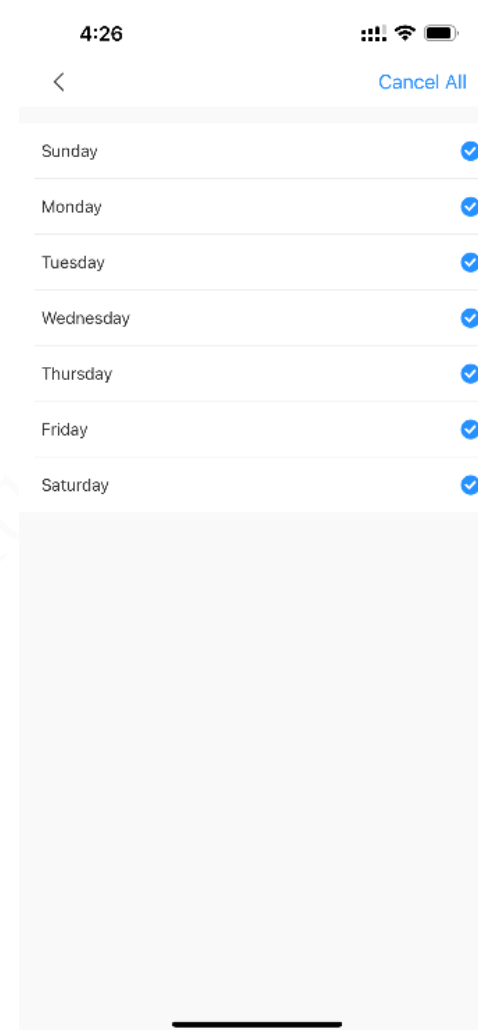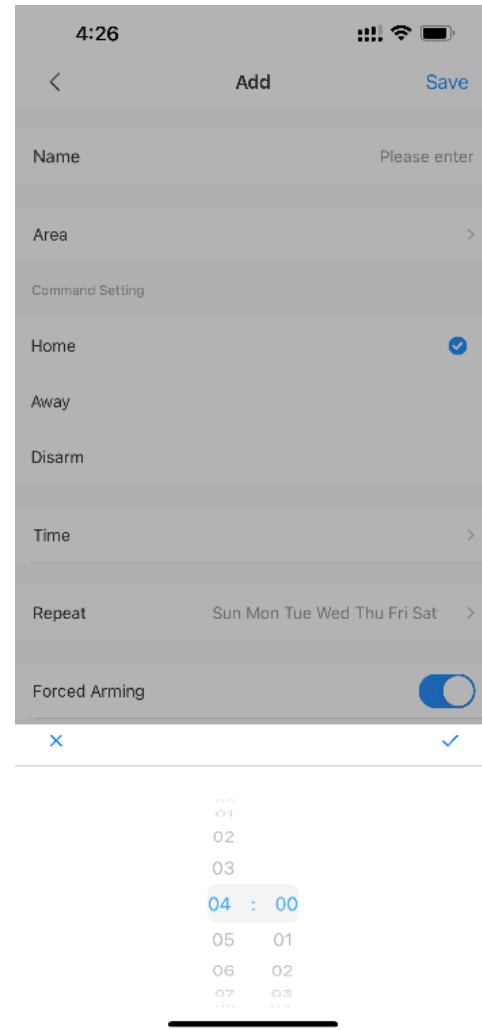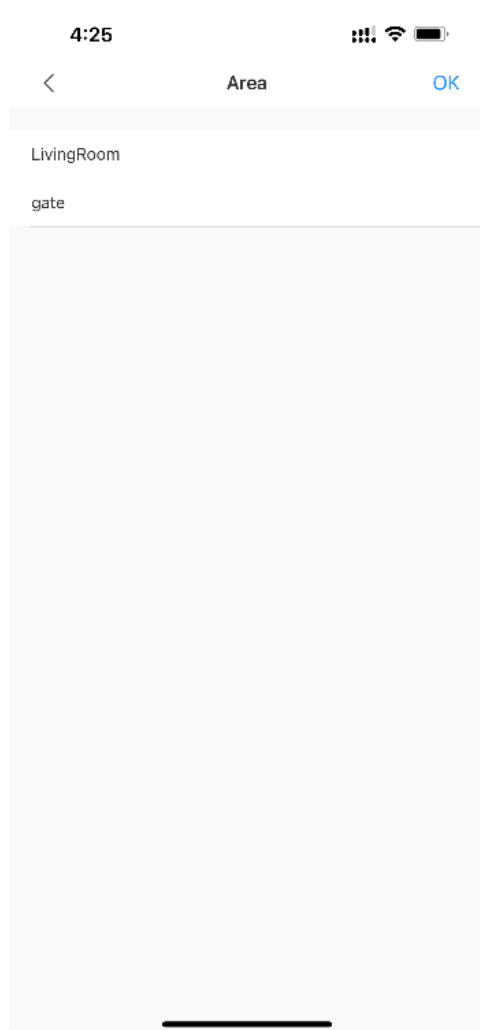
Device Sharing

1. Tap the blue icon on the right bottom, which is Device Sharing.

2. Choose the device to be shared.

3. Input the DMSS account to be shared and finish.

CONTENT

1

Products & Solution Overview

2

Debugging

3

FAQ

FAQ

1. Why Alarm Hub is offline?

① Confirm whether the network is normal

② If the network is unstable, the ECS connection time in the gateway settings can be prolonged

2. What if the peripherals are offline?

① Test the signal of accessories. It is recommended that the signal strength at the installation position should be more than three bars.

② Confirm whether the gateway receives radio signal interference in the same frequency band. If the latest program receives interference, there will be a push message of RF jamming.

③ Increase the heartbeat interval and frequency of the gateway appropriately.

3. What if fail to add the peripherals?

① Check whether the models are compatible. The 868 device cannot pair with the 433 device

② Check if the equipment is the latest program

③ Confirm whether the green light of the accessory flashes to enter pairing mode, and whether the blue light of the gateway flashes quickly

④ Try pairing by double clicking the gateway power key.

FAQ

4. Why I can't use keypad/ keyfob to arm the hub?

When the gateway system has a fault, it needs to be forced to deploy. You can click the deployment on the main interface of the APP to prompt which faults are there for troubleshooting.

5. Why I can't add third-party card to the hub?

Support Mifare card and IC card. If the card is encrypted, then it cannot be recognized.

FAQ

6. Why I failed to take captures for PIR camera?

① There is a limit to the number of snapshots in another PIR Cam deployment cycle. The default is 3, and the maximum is 10, which can be set.

② Try to test PIR Cam signal. PIR cam uses 2.4Ghz signal to transmit image. The distance will be shorter than that of ordinary detectors

7. After inserting SIM card, failed to dial.

① Confirm SIM dialing parameters with the operator.

② Confirm whether SIM card requires to set PIN code.

Download Link

1. Options Table:
    https://gks1.dahuasecurity.com/de/list/30647?pagesize=30
2. Product promotion materials (release
    PPT/Promotion/poster/video/competitive analysis/success
    stories)
    *   https://gks1.dahuasecurity.com/de/list/13189?pagesize=30
3. Datasheet:
    https://gks1.dahuasecurity.com/de/list/13179?pagesize=30
4. User manual/Quick Operation Manual:
    https://gks1.dahuasecurity.com/de/list/59797?pagesize=30
5. High definition drawing of product
    https://gks1.dahuasecurity.com/de/list/13184?pagesize=30
6. Technical support (software tools/configuration guidance
    documents/videos/FAQ):

    Customer or Visitor：**https://support.dahuasecurity.com/en**

    Dahua Employee：**VPN +** **https://support2.dahuasecurity.com/en**

ADVANCE YOUR CAREER