

Grandstream Networks, Inc.

GDS37XX – IP Door System

Digital Input Configuration



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INTRODUCTION

GDS37xx is an audio/video door access system, an innovative IP based powerful door system. The GDS37xx was built for users looking for a strong audio/video facility access and security monitoring solution that can be deployed in environments of all sizes.

This guide explains step by step how to use the GDS37xx digital Input and its related configuration.



SUPPORTED DEVICES

The following table shows the supported products and the minimum firmware to use:

Product	Firmware
GDS3705	1.0.1.16
GDS3710	1.0.7.23



FUNCTIONALITY

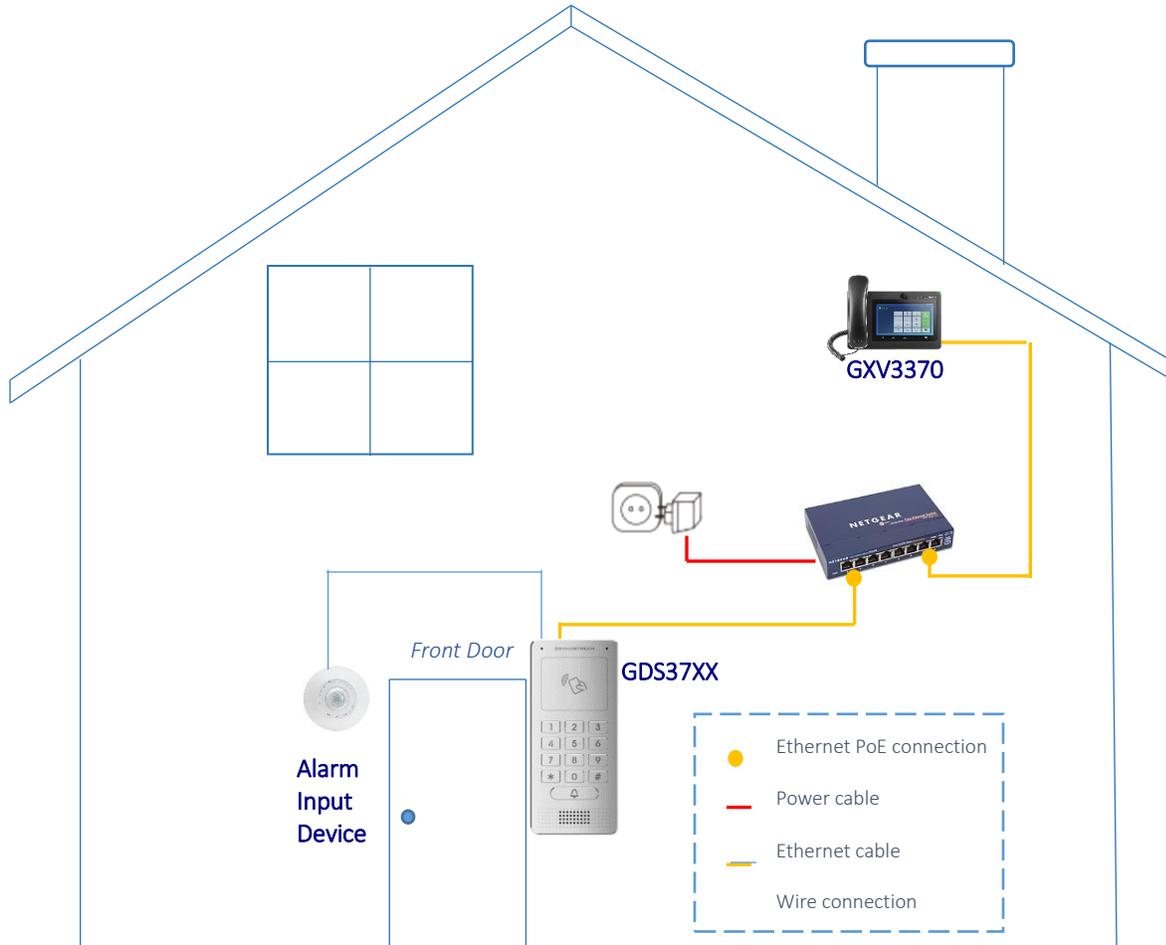
The GDS37xx can be used with two input peripherals (**Digital Input 1** and **Digital Input 2**) allowing more possibilities for deployments. When the input peripheral is activated, a signal is sent to the GDS37xx, and depending on the configuration chosen the following actions can be executed:

If the GDS37xx Digital Input is configured as an **Alarm Input** then it can generate a trigger to activate a preconfigured alarm profile to notify the user.



WIRING DIAGRAM

In this scenario, we assume that the GDS3710 is installed on a small warehouse at the front door and the GXV IP phone along with a motion sensor are set to alert the user by via a call if someone get close to the motion sensor zone.



GDS37XX WIRING CONNECTION

Connecting Alarm Input PINs

The GDS37xx have two alarm input entries and two alarm output entries and a ground entry as shown in the following figure.

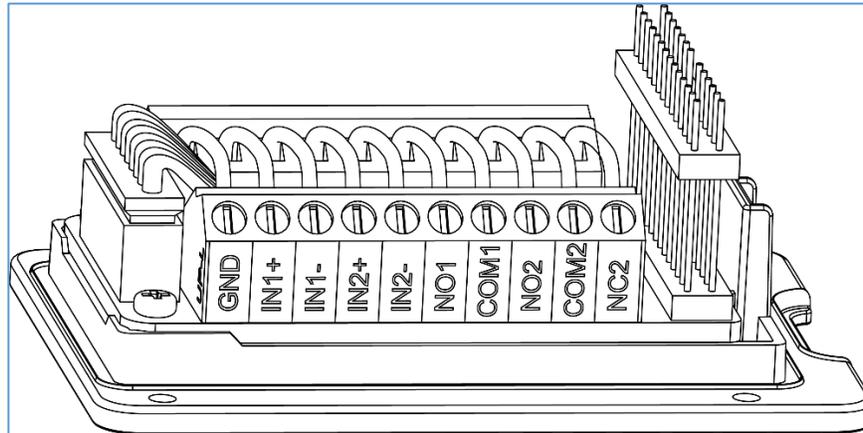


Figure 1: GDS37xx Back Cover

Note: Alarm IN is just an electronic lock, they are either open to block the current or close to let the current pass through, therefore a 3rd party power supply is needed to power the device connected to the GDS37xx via Alarm IN.

Alarm IN Connection Example

Connect Alarm (IN1+, IN1-) or (IN2+, IN2-) to appropriate wires in order to receive signal from the third party device as shown below.

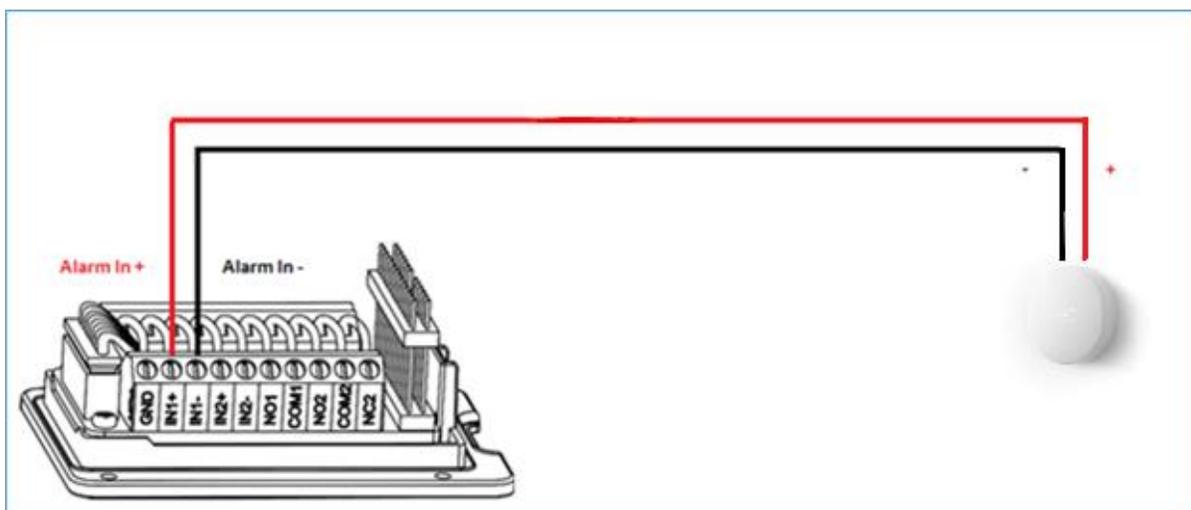


Figure 2: Alarm Input Example



Alarm Input Circuit

Alarm Input could use any 3rd party Sensors (like IR Motion Sensor, door sensor, etc).

The figure below shows illustration of the Circuit for the alarm input.

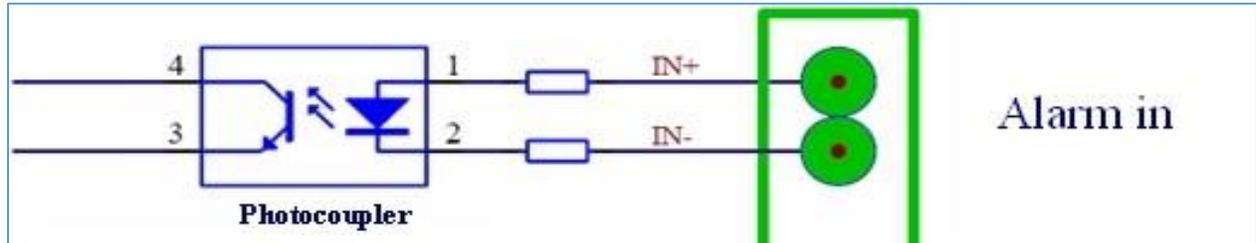


Figure 3: Alarm Input Circuit for GDS37xx

Notes:

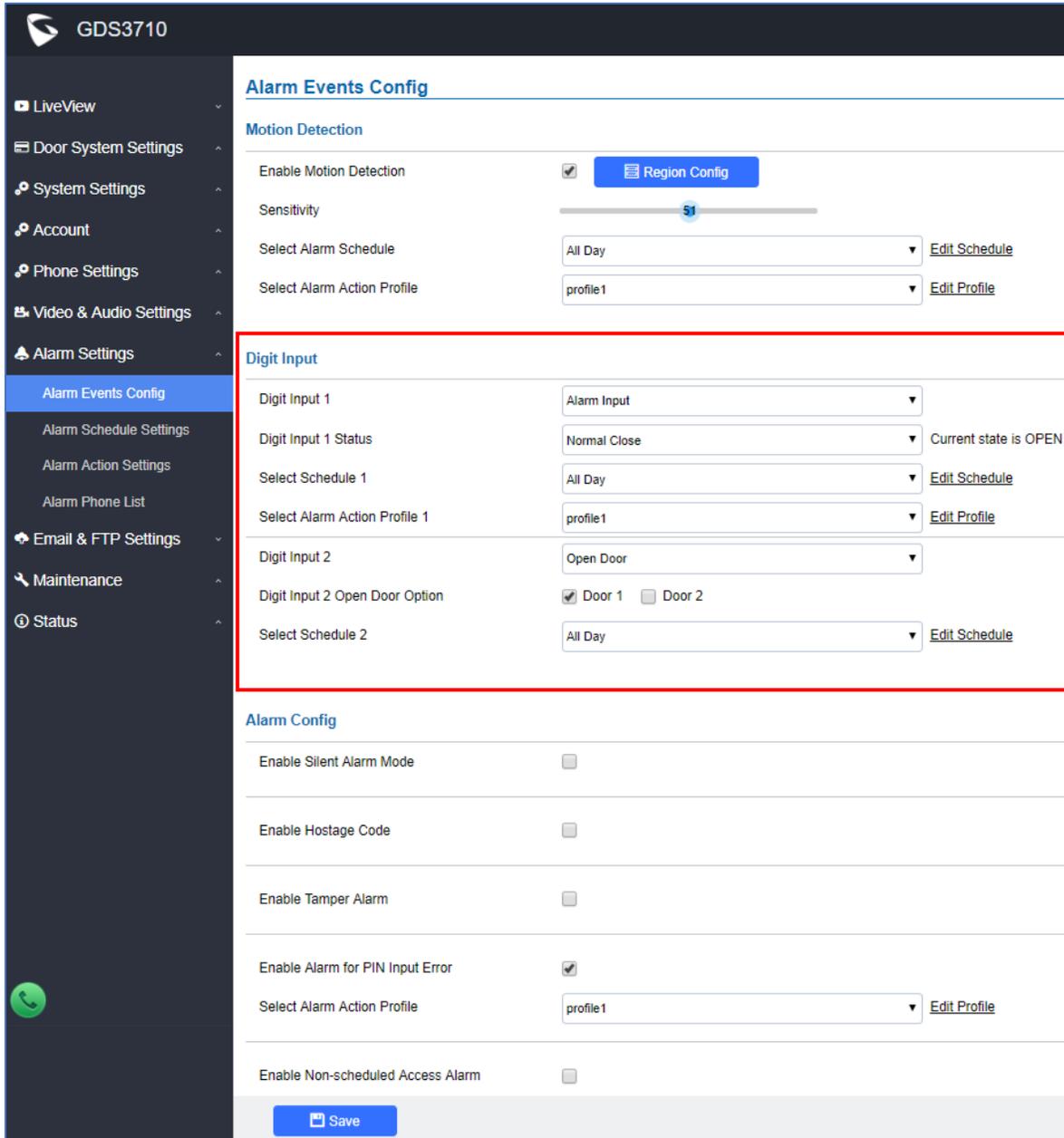
- The Alarm Input circuit for the GDS37xx should meet the following requirement: $3V < V_{in} < 15V$, PINs (1.02K Ω)
- If there is any voltage change between 3V and 15V, as specified above, the GDS37xx Alarm Input port will detect it and trigger the action and event.
- Higher voltage and wrong polarity connection are prohibited because this will damage the devices.



GDS37XX WEB CONFIGURATION

Alarms can be triggered either by motion detection (using the GDS3710's camera) or digital input. Users can configure the GDS37xx events to trigger programmed actions within predefined schedule.

To configure the digital input, the hardware wiring needs to be done, then the configuration can be followed from the web gui > Alarm Settings > Alarm event Config > Digital Input as shown on the screenshot:



GDS3710

Alarm Events Config

Motion Detection

- Enable Motion Detection [Region Config](#)
- Sensitivity
- Select Alarm Schedule: All Day [Edit Schedule](#)
- Select Alarm Action Profile: profile1 [Edit Profile](#)

Digit Input

- Digit Input 1: Alarm Input
- Digit Input 1 Status: Normal Close Current state is OPEN
- Select Schedule 1: All Day [Edit Schedule](#)
- Select Alarm Action Profile 1: profile1 [Edit Profile](#)
- Digit Input 2: Open Door
- Digit Input 2 Open Door Option: Door 1 Door 2
- Select Schedule 2: All Day [Edit Schedule](#)

Alarm Config

- Enable Silent Alarm Mode
- Enable Hostage Code
- Enable Tamper Alarm
- Enable Alarm for PIN Input Error
- Select Alarm Action Profile: profile1 [Edit Profile](#)
- Enable Non-scheduled Access Alarm

[Save](#)

Figure 4: Events Page



The **Alarm Input** option will prompt a new menu called **Digit Input x Status** to select the status of the Alarm Input peripheral. Two options can be selected:

- **Normal Open:** Configured alarm will be triggered when Digital Input Status switch from Close to Open.
- **Normal Close:** Configured alarm will be triggered when Digital Input Status switch from Open to Close.

If the GDS37xx Digital Input is configured to **Open Door** then a connected switch can be used to open door (**door 1** or **door 2** can be selected) from inside.

If the GDS37xx Digital Input is configured as **Abnormal Door Control** then when if device being tampered with to open the door abnormally a siren alarm can be used to notify the user. For detailed information please refer to GDS37xx User Manual, “Siren alarming when door opened abnormally” configuration.

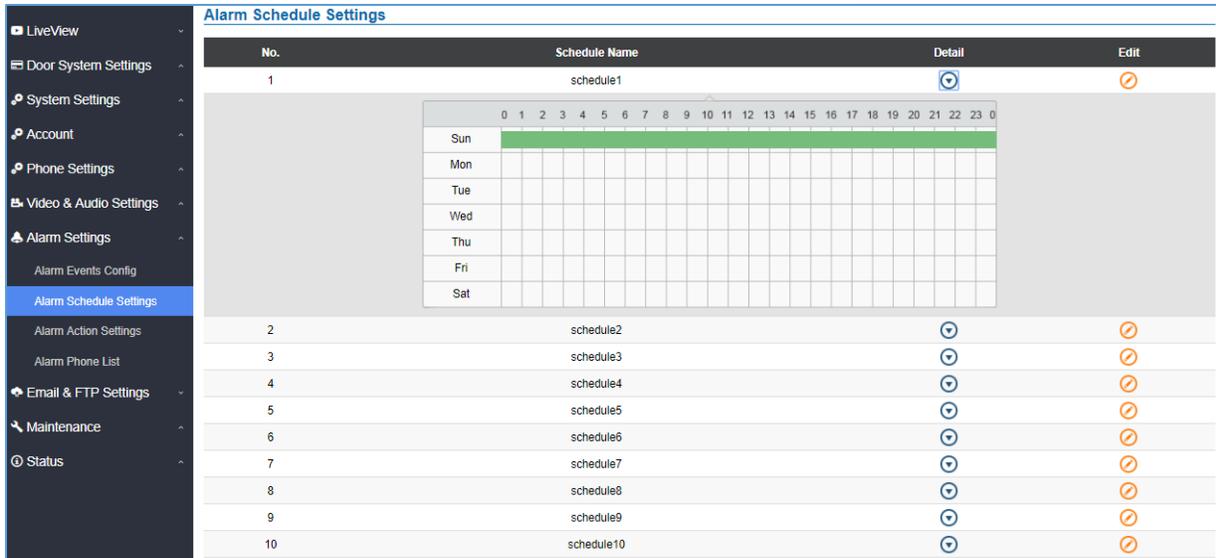
The Digital input option leverage the **Select Schedule** and the **select alarm action profile** options to provide a granular configuration of the specific time to run the alarm and the alarm type used.

Configuration Example

For this example, we'll set the GDS37xx to initial a call to a sip phone whenever it detects any movement on Sundays.

For this configuration the wiring needs to be done as explained in the previous section (Alarm IN Connection Example). We'll use for this example Alarm IN1 - and Alarm IN1 + to connect the sensor, then we'll configure Digit Input 1 as Digital Input, and Digit Input 1 Status as normally closed. And after that we'll configure the Schedule1 to select Sunday and select it under Select Alarm Schedule, as shown on this screenshot:





The screenshot shows the 'Alarm Schedule Settings' page. On the left is a navigation menu with 'Alarm Schedule Settings' highlighted. The main area contains a table of schedules and a calendar for 'schedule1'.

No.	Schedule Name	Detail	Edit
1	schedule1		
2	schedule2		
3	schedule3		
4	schedule4		
5	schedule5		
6	schedule6		
7	schedule7		
8	schedule8		
9	schedule9		
10	schedule10		

Figure 5: Alarm Schedule Settings

Next, we'll set Select Alarm Action Profile 1 to profile1, and select Alarm Action Settings on the left side bar to configure the profile.

The GDS37xx alarms that can be triggered are:

- **Upload to Alarm Center:** If selected, the GDS Manager will popup alarm window and sound alarm in the computer speaker.
- **Audio Alarm to SIP Phone:** If selected, GDS37xx will call pre-configured (video or audio) phone and will play sound alarm.
- **Send Email:** If selected, an email with snapshot will be sent to the pre-configured email destination. (on GDS3710 only)
- **Audio Alarm:** If selected, GDS37xx will play alarm audio using built-in speaker.
- **Alarm Output:** If selected, the alarm will be sent to the equipment (for example: Siren) connected to Alarm Output interface.
- **Upload Snapshot:** If selected, snapshots at the moment where the event is triggered will be sent to preconfigured destination e.g. FTP or email. (on GDS3710 only)



Alarm Action Settings					
No.	Alarm Action Profile Name	Detail	Edit	Test	
1	profile1	<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p><input checked="" type="checkbox"/> Upload to Alarm Center</p> <p><input checked="" type="checkbox"/> Audio Alarm to SIP Phone</p> <p><input checked="" type="checkbox"/> Send Email</p> </div> <div style="width: 45%;"> <p><input checked="" type="checkbox"/> Audio Alarm</p> <p><input checked="" type="checkbox"/> Alarm Output</p> <p><input checked="" type="checkbox"/> Upload Snapshot</p> </div> </div>			
2	profile2				
3	profile3				
4	profile4				
5	profile5				
6	profile6				
7	profile7				
8	profile8				
9	profile9				
10	profile10				

Figure 6: Alarm Action Page

We can edit the Profile1 by clicking  button, the following window will pop up, and selecting audio Alarm to SIP Phone,

Modify Alarm Action Profile ✕

Alarm Action Profile Name

Upload to Alarm Center

Audio Alarm to SIP Phone

Send Email

Audio Alarm

Alarm Output

Upload Snapshot

Figure 7: Modify Alarm Action Profile1

And finally, under Alarm Phone List, we can insert which phone numbers or extensions that the GDS3710 will call out when event is triggered



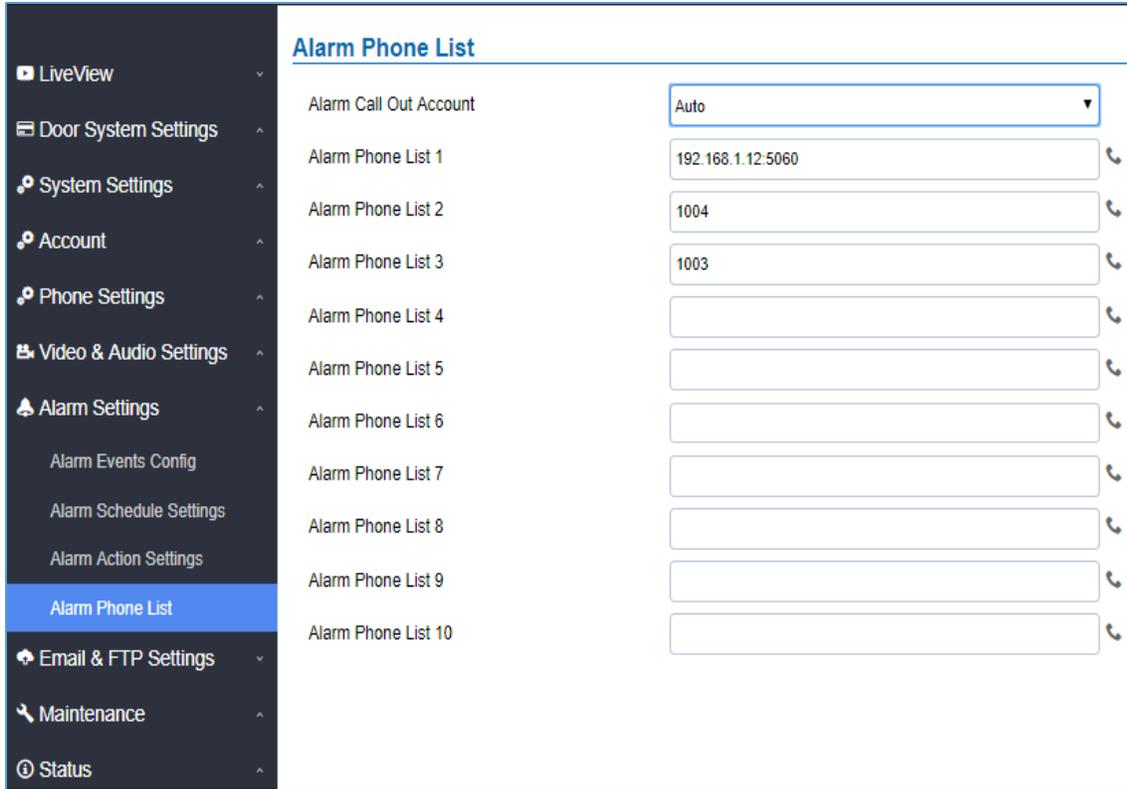


Figure 8: Alarm Phone List Page

Once the event is triggered, the GDS37xx will call the first number (192.168.1.12), once time out is reached and no answer is returned from the first number, the GDS37xx will try the next number on the list (1004) and so on. Once the remote phone answers the call, an alarm will be played to notify users that an event is triggered.