

HOW TO CONFIGURE SIP OPEN DOOR VIA GRANDSTREAM NVR/GVR355X AND WEATHERPROOF SERIES IP CAMERAS

Unlike plastic case indoor camera GXV3611IR_HD, the metal case outdoor IP66 weatherproof IP cameras GXV3672, GXV3674 and GXV3610 series do not have built-in Alarm_In and Alarm_Out interface. But when combined with Grandstream GVR355X, SIP Prox or IP-PBX, the GVR355X's built-in Alarm_In and Alarm_Out interface can be used to connect to related 3rd party device like Door Bell/Intercom and Relay or Door Strike, to accomplish the SIP Open Door function when configured with related SIP IP-PBX.

The benefit of such solution is that the GVR355X can only record all the person pressed the door bell and door can be controlled (local or remotely) via video SIP calls, either via Grandstream IP video hard phone like GXV3240 or GXV3275, or Grandstream GS_Wave soft phone (pending) running on Android or iOS.

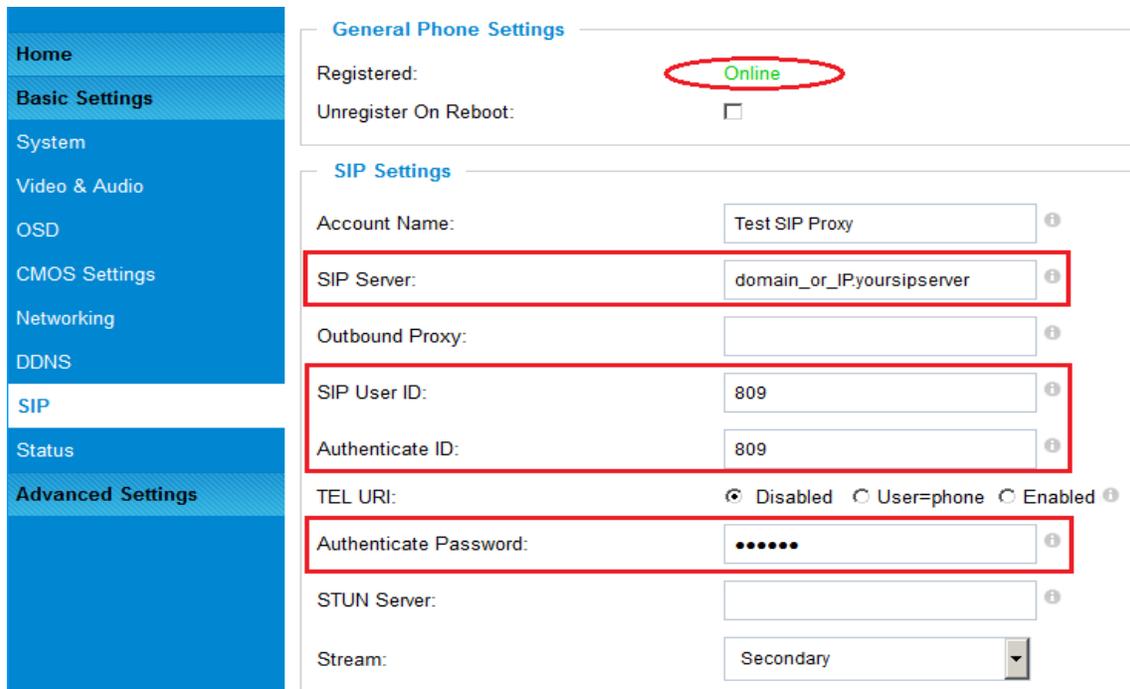
Following is the example of how to configure this feature. Recommend using latest firmware for all related Grandstream device. The FW used in below example are:

- GVR355x FW: 1.0.1.29
- GXV3610/3672/3674: FW: 1.0.3.13

Firmware beyond the above versions are required for this feature to function properly.

GXV3672/GXV3674/GXV3610 (IP Camera) Side:

- **Basic - SIP Setting:**



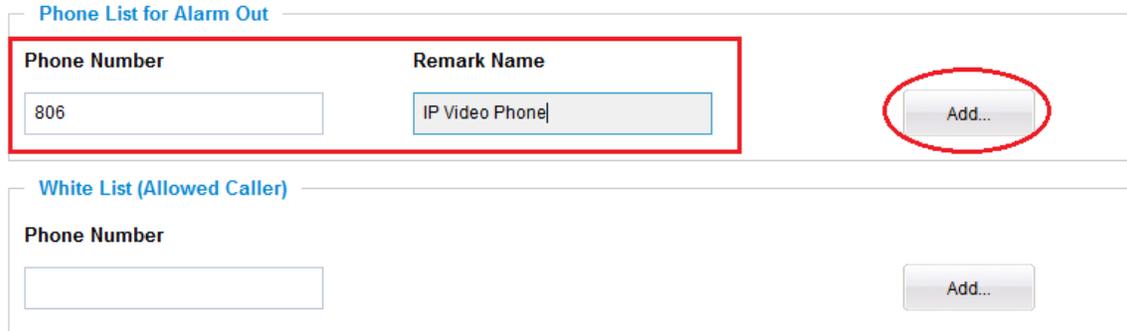
The screenshot shows the Grandstream web interface for SIP configuration. On the left is a navigation menu with 'SIP' selected. The main content area is divided into two sections:

- General Phone Settings:**
 - Registered: Online (circled in red)
 - Unregister On Reboot:
- SIP Settings:**
 - Account Name: Test SIP Proxy
 - SIP Server: domain_or_IP,yoursipserver (boxed in red)
 - Outbound Proxy: (empty)
 - SIP User ID: 809 (boxed in red)
 - Authenticate ID: 809 (boxed in red)
 - TEL URI: Disabled User=phone Enabled
 - Authenticate Password: (boxed in red)
 - STUN Server: (empty)
 - Stream: Secondary

Figure 1: IP Camera Basic Settings – SIP Configuration

Make sure configure correct SIP Proxy or IP-PBX by using either FQDN domain name or IP address. Also fill in extension and password, save the setting and make sure the IP camera is registered to the SIP server, as shown in Figure 1, the green “Online” status will be displayed once the IP camera registered to the SIP Proxy or IP-PBX.

At the “Phone List for Alarm Out”, please fill in the extension of the IP video phone to receive the Alarm_Out calls, this could be Grandstream SIP video hard phone or software phone. Make sure the video phone is indeed registered to the SIP Server or IP-PBX.



Phone List for Alarm Out

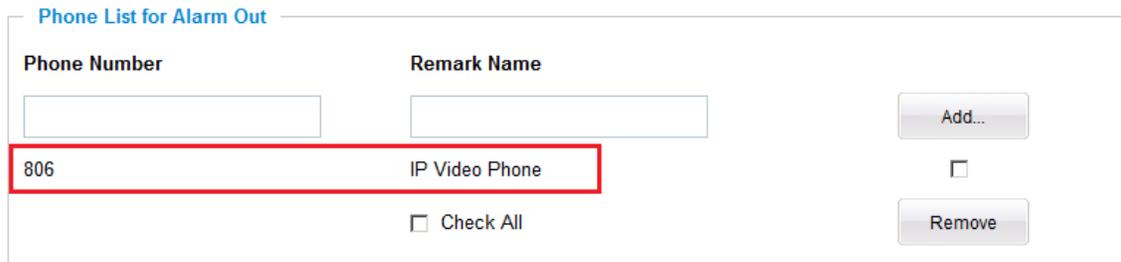
Phone Number	Remark Name	
806	IP Video Phone	<input type="button" value="Add..."/>

White List (Allowed Caller)

Phone Number	
<input type="text"/>	<input type="button" value="Add..."/>

Figure 2-1: IP Camera Basic Settings – Alarm Out Phone Number

Once click “Add”, the phone number will be added as shown in below:



Phone List for Alarm Out

Phone Number	Remark Name	
<input type="text"/>	<input type="text"/>	<input type="button" value="Add..."/>
806	IP Video Phone	<input type="checkbox"/>

Check All

Figure 2-2: IP Camera Basic Settings – Alarm Out Phone Number

In this example configuration, the IP camera with extension number 809, once Alarm_In (sending from GVR355X via the Door Bell Operation) triggered, will make SIP phone call to extension 806, the IP Video Phone configured to receive the Alarm_Out call to execute the open door operation. The IP video phone could be Grandstream GXV3240/3275 hard phone, or GS_Wave soft phone running at Smartphone, like Android or iOS (Pending).

This finished the SIP related configuration on IP Camera side.

NOTE:

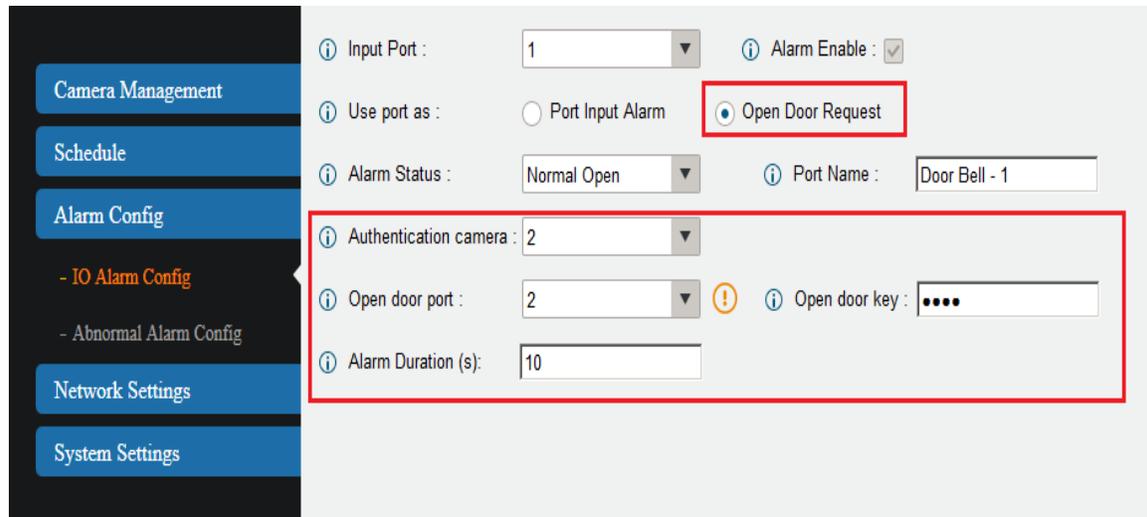
- Make sure to DISABLE the Voicemail or Faxmail at SIP Proxy or IP-PBX side for the extension that receiving the Alarm_Out call. (Extension 806 in the example).

GVR355X (NVR) Side:

GVR355X has to configure the “IO Alarm Config” correctly to allow the “SIP Open Door” feature function properly.

- **Software Configuration**

GVR355X can be configured either via Local View interface or WebGUI interface. Below example is using web interface of GVR3552, the GVR3550 is similar:



The screenshot shows the 'IO Alarm Config' page in the WebGUI. On the left is a navigation menu with options: Camera Management, Schedule, Alarm Config (selected), - IO Alarm Config, - Abnormal Alarm Config, Network Settings, and System Settings. The main configuration area includes the following fields:

- Input Port: 1
- Alarm Enable:
- Use port as: Port Input Alarm, Open Door Request
- Alarm Status: Normal Open
- Port Name: Door Bell - 1
- Authentication camera: 2
- Open door port: 2
- Open door key:
- Alarm Duration (s): 10

Figure 3: Open Door Configuration

- **Alarm_In Port:**

Select “Input Port” from pull-down selection, this port has to be connected to the wire connecting to the Door Bell or Intercom circuit.

- **Alarm_Out Configuration:**

Select “Open Door Request” to enable “Open Door” feature.

Once selected, the system will automatically enable the Alarm Input port just chosen.

Select the related IP Camera from the “Authenticaton Camera” pull-down selection (Camera 2 or Channel 2 in this example), also select related “Open Door Port” from the pull-down selecton. (Alarm_Out port 2 in this example).

Make sure the related Open Door Port has physical connection or circuit to the door strike.

Fill in correctly the **digit key** to open door, and the Alarm Duration which is the timer the Alarm_Out port will send signal to relay to restore the state (10 seconds in the example).

NOTE:

- Enter “#” key following the digits key to execute the operation.

• Hardware Wiring

Below are illustration of wiring diagram for the GVR355X.

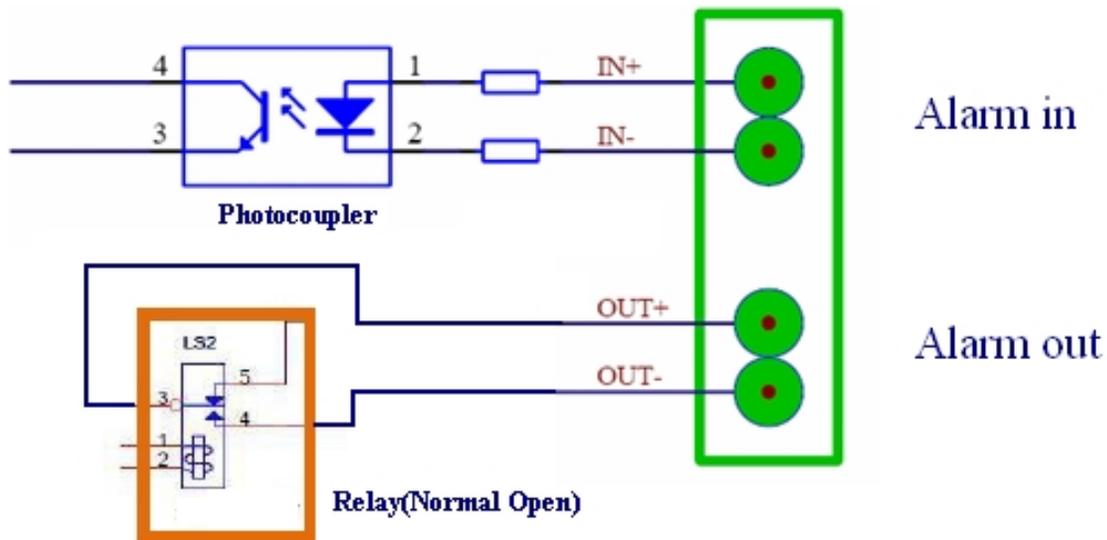


Figure 4: Alarm_In and Alarm_Out Connection Circuit Sample for GVR355X

NOTE:

- *The Alarm_In and Alarm_Out circuit connection has to be similar to above circuit diagram and meet following requirement:*

Alarm Input	Vin<15V, PINs (1.02KΩ)
Alarm Output	125VAC/0.5A, 30VDC/2A, Normal Open, PINs

- *The Alarm_In circuit (like above photocoupler), if there is any voltage change smaller than 15V, as specification listed), the GVR355X Alarm_In port will detect it and trigger the action and event*
- *The minimum duration is 500ms for the Alarm_In to trigger and the minimum voltage change should be bigger than 3V.*
- *Higher voltage and wrong polarity connection are prohibited because this will damage the devices. So please wiring correctly and do NOT connect the polarity wrong.*
- *Any Door Bell circuit should be able to connected as Alarm_In, just make sure the polarity connected correctly and make sure the voltage change meets the requirement.*

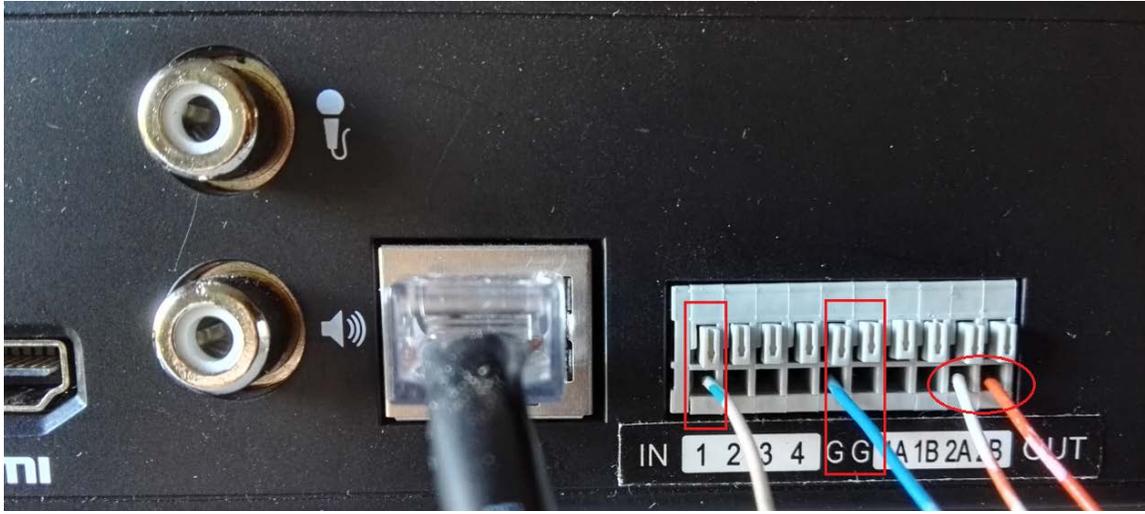


Figure 5: Alarm_In and Alarm_Out Wiring Diagram for GVR355X

NOTE:

- Alarm_In will share the “G” as Ground, make sure to connect the “Negative” or “-“ cable into the interface marked with “G”.
- Alarm_Out port marked with A, B, please make sure to connect “Positive” or “+” cable into the port with “A”, the “Negative” or “-“ cable into the port with “B”. (In the example, Port 2 configured as Alarm_Out operation to Open Door, see the cable connected into the GVR3552).

Alarm_Out duration in the above example is configured as “10 seconds” at the GVR355X. So the Alarm_Out will act for 10 seconds before revert back to previous state. In the example, the default is circuit “Open”, when Alarm_Out triggered, the circuit state changed to “Close”, as illustrated below for 10 seconds and then switch back to previous “Open” state.

If connecting to a multimeter, you will see the Ohm changed from unlimited to several hundred Ohms during the Alarm_Out port action. See below Figure 8.

Also a “click” audible relay switching sound can be heard if closing enough to the GVR355X when the inside circuit doing the job.



Figure 6: GVR355X Alarm_Out Circuit Measurement

Please contact Grandstream technical support if followed the above instructions but the feature still not working as expected. Please make sure the SIP Proxy or IP-PBX indeed have the related IP Camera and IP Video Phone registered.