GeoVision inc
The Vision of Security

GV-FR Panel

User's Manual



- **GV-FR Panel V1**
- **GV-FR Panel V2**
- **GV-FR Panel V2-QR**

Before attempting to connect or operate this product, please read these instructions carefully and save this manual for future use.

FRPANELV2V130-UM-A

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August 2026

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[Warranty]

[Technical Support Policy]

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Regulatory Notices

FCC Notice

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.

Class A

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at their own expense.

CE Notice

This is a Class A product. In a domestic environment, this product may cause radio interference in which case the user may be required to take adequate measures.

RoHS Compliance

The Restriction of Hazardous Substances (RoHS) Directive is to forbid the use of hazardous materials of production. To meet the RoHS Directive requirements, this product is made to be RoHS compliant.



WEEE Compliance

This product is subject to the Waste Electrical and Electronic Equipment (WEEE) Directive and made compliant with the WEEE requirements.

Preface

Welcome to the *GV-FR Panel User's Manual*.

This Manual is designed for the following models:

- **GV-FR Panel V1**

Model	GV-FR Panel-5	GV-FR Panel-10
Event Log	50,000	100,000

- **GV-FR Panel V2**

Model	GV-FR Panel V2	GV-FR Panel V2-QR
QR Code Reader	No	Yes

Recognition and Authentication Considerations

Face Recognition Distance:

- GV-FR Panel delivers optimal face recognition results when the faces of the targets are within 1 m (3.3 ft) of GV-FR Panel V1, and 2 m (6.6 ft) of GV-FR Panel V2.

Lighting Conditions:

- GV-FR Panel is designed for indoor use only. Avoid exposing it to direct sunlight as it may affect its face recognition performance.

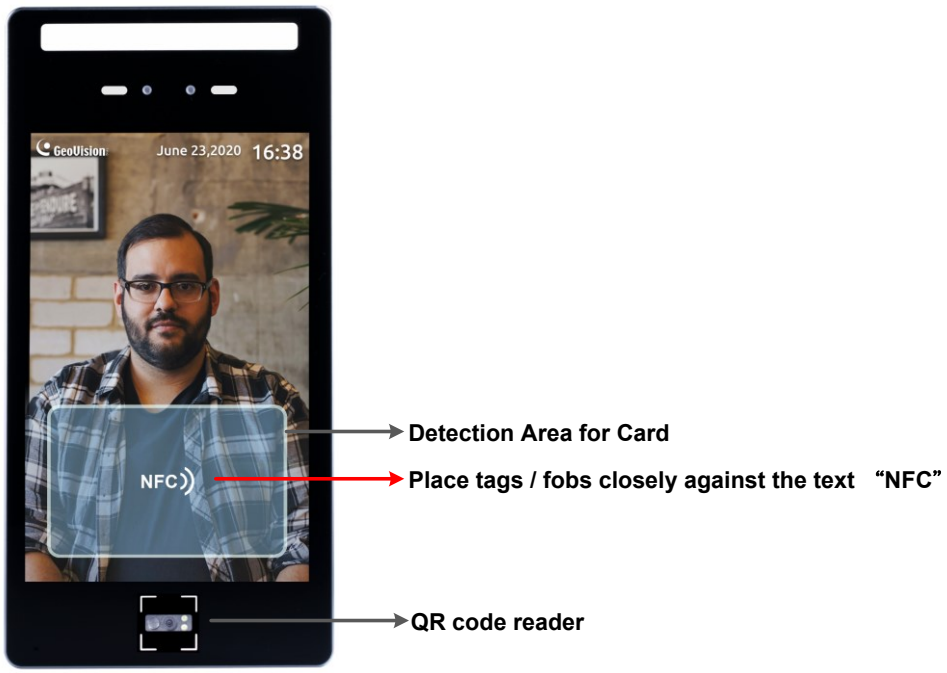
Face Recognition Limitations:

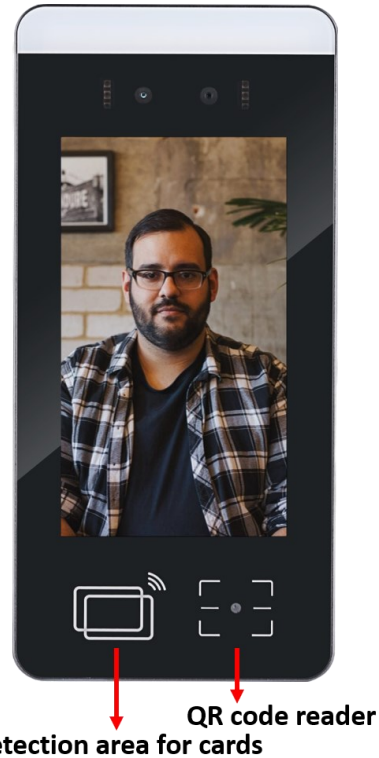
- GV-FR Panel may not be able to recognize faces wearing any type of sunglasses.

Detection Area of Cards, Tags / Fobs, QR Codes:

- When swiping **cards**, place them **closely** against the touch screen for optimal detection effect.
- Only available for GV-FR Panel V1. When swiping **tags / fobs**, place them **closely** against the text “NFC” on the touch screen for optimal detection effect.
- When scanning **QR codes**, keep a distance of 10-15 cm (4-6 in) from the reader for effective scanning.

GV-FR Panel V1:



GV-FR Panel V2:	GV-FR Panel V2-QR:
	

Note for FR Panel V1

1. GV-FR Panel V1 will automatically load default when downgraded to an older version.
2. After upgrading to **V1.20**, make sure to set the network setting to DHCP and connect the panel to Internet for license authentication.
3. After upgrading to version **V1.20**, a loading screen displaying “Data migration” will appear and face recognition will remain non-functional until the system completes upgrading.

Note for Wiegand Connection

When connecting via Wiegand, the Ground (GND) wire must be connected alongside the Wiegand Data wires.

Note for GV-ASManager Integration

When integrating with the GV-ASManager access control system, you have two options to gain access via **GV-FR Panel V2**. One is **face recognition**, which requires enrolling faces in GV-ASManager. The other is to use **access cards** issued by GV-ASManager, allowing entry by swiping the card on the panel. For detailed actions of GV-FR Panel V2 and GV-ASManager under different scenarios when a face or a card is presented, see *Appendix* 2 *Access Method Scenarios for FR Panel V2*.

Chapter 1 Introduction

GV-FR Panel V1

GV-FR Panel V1 is a face-recognition-based access reader, with an 8" LCD touchscreen that displays 800 x 1280 HD images. When connected to GeoVision access control systems, GV-FR Panel V1 can grant or deny access based on multiple credential types including face recognition, access cards, and card + face double authentication.

Additionally, GV-FR Panel V1 can read QR codes from **GV-ASManager's Visitor Management System (GV-VMWeb)** as well as the **EU Digital COVID Certificate**.

With its cutting-edge face recognition ability, GV-FR Panel V1 can also be integrated into any third-party Wiegand access control system. By combining AI video analytics with access control, it delivers a new level of convenience and security.

Models

Model	GV-FR Panel-5	GV-FR Panel-10
Event Log	50,000	100,000

GV-FR Panel V2

GV-FR Panel V2 is a face-recognition-based access reader equipped with a 7" LCD touchscreen that displays 600 × 1024 HD images. It offers the following features:

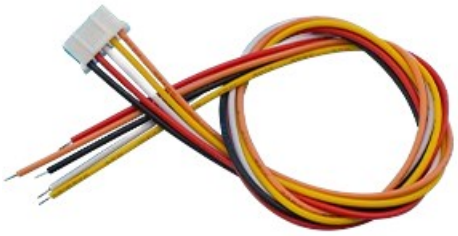
- **Access Credentials:** When connected to the GV-ASManager access control system, GV-FR Panel V2 can grant or deny access using: Face Recognition, Access Cards, and Card + Face (Double Authentication).
- **QR Code Support**: The panel supports QR codes generated by the GV-ASManager Visitor Management System (GV-VMWeb). Guests can gain entrance to regulated areas by scanning the QR code displayed on their mobile phones.
- **Third-Party Integration:** GV-FR Panel V2 can be integrated into any third-party Wiegand access control system for maximum flexibility.
- **Surveillance Integration:** Live video from GV-FR Panel V2 can be streamed to GV-VMS, creating a more comprehensive surveillance management environment.
- **Tailgating Detection:** When integrated with the **GV-GEBF4911** camera, the panel supports tailgating detection for a designated entry area. If multiple individuals are detected during a single access attempt, the system will deny access to prevent unauthorized entry.
- **Cloud Integration:** Supports seamless connection to **GV-Cloud Access Control**, allowing for remote monitoring of access activities and snapshots without the need for a local server. It also features facial recognition and QR code access control.

Models

GV-FR Panel V2	
GV-FR Panel V2 with Pillar Stand	with Pillar Stand
GV-FR Panel V2-QR	with QR Code Reader
GV-FR Panel V2-QR with Pillar Stand	with QR Code Reader and Pillar Stand

1.1 Packing List

1.1.1 GV-FR Panel V1

1. GV-FR Panel V1 	2. Wall Mount Bracket Kit  For GV-Mount800 For GV-Mount801
3. Wiegand cable 	4. USB Host PH2.0-4P cable 
5. RJ-45 cable 	6. USB OTG PH2.0-4P cable 
7. Power cable 	

1.1.2 GV-FR Panel V2

1. GV-FR Panel V2 or GV-FR Panel V2-QR

GV-FR Panel V2 (includes the data cable attached to the rear panel)	GV-FR Panel V2-QR (includes the data cable attached to the rear panel)
	

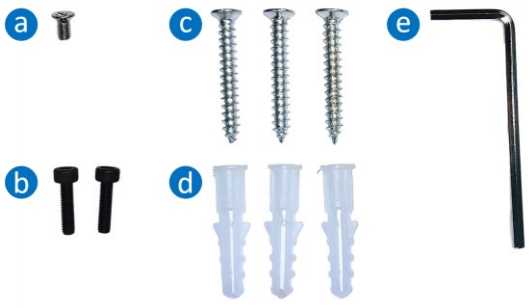
2. Wall Mount Bracket Kit



3. Power Adapter DC 12V 3A



4. Screw Kit



(a) Short Screw (5 mm / 0.20 in) x 1
(b) Socket Screw (10 mm / 0.39 in) x 2
(c) Long Screw (29 mm / 1.14 in) x 3
(d) Plastic Anchor (29 mm / 1.14 in) x 3
(e) Allen Wrench x 1

1.2 Firmware and Software Compatibility

GV-FR Panel is compatible with the following firmware and software versions:

1.2.1 GV-FR Panel V1

Supported Product / Application		Version
Controller	GV-AS210 / 2110 / 2120	V2.31 or later
	GV-AS410 / 4110 / 4111	
	GV-AS810 / 8110 / 8111	
	GV-AS1520	V2.06 or later
	GV-AS1620	V1.03 or later
	GV-CS1320	V3.05 or later
	GV-EV48	V2.31 or later
GV-FWC access data converter		V1.02 or later
GV-ASManager access control software		V5.3.1 or later
GV-VMS		V17.4.8 / V18.3.5 or later
GV-Edge Recording Manager (Windows)		V2.2.0 or later
Face Enrollment		GV-ASManager (software) V5.3.1 or later, GV-Face Manager (utility) V1.3.0 or later GV-Face (mobile app) V2.1.0 or later
Firmware Upgrade		GV-IP Device Utility V8.9.3 or later

1.2.2 GV-FR Panel V2

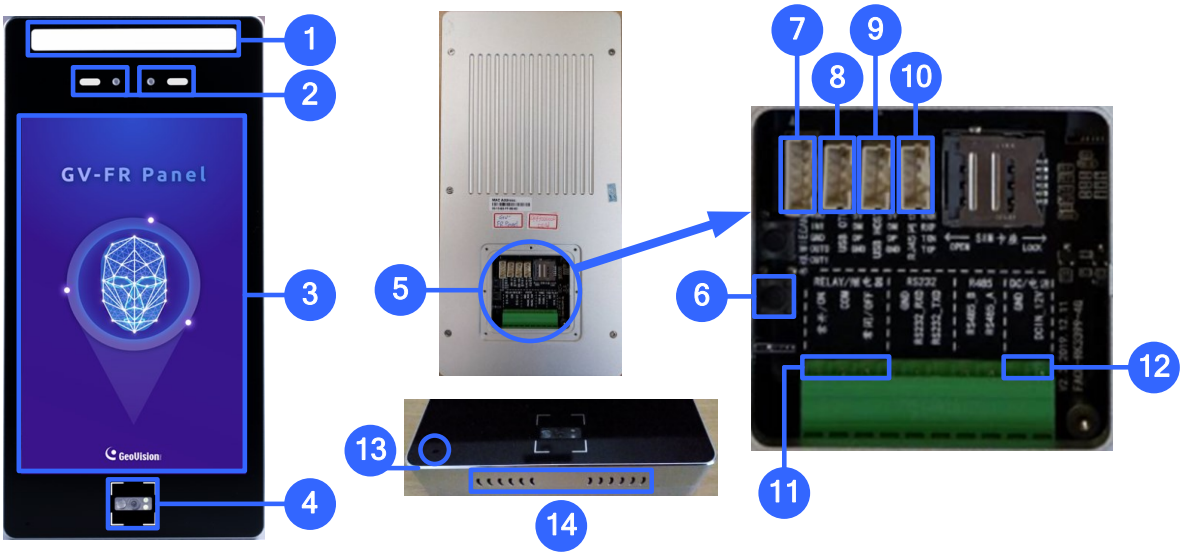
Supported Product / Application		Version
Controller	GV-AS210 / 2110 / 2120	V2.60 or later
	GV-AS410 / 4110 / 4111	
	GV-AS810 / 8110 / 8111	
	GV-AS1620	V1.13 or later
	GV-CS1320	V3.13 or later
	GV-EV48	V2.31 or later
GV-FWC access data converter		V1.02 or later
GV-ASManager access control software		V6.1.0 or later
GV-Cloud Access Control		V1.6.0 or later
GV-VMS		V20.1 or later
GV-Edge Recording Manager (Windows)		V2.3.0 or later
Face Enrollment		GV-ASManager (software) V6.1.0 or later, GV-Face Manager (utility) V1.3.0 or later, GV-Face (mobile app) ● for Android V2.2.0 or later ● for iOS V2.2.1 or later
Firmware Upgrade		GV-IP Device Utility V9.0.2 or later

Note: GV-FR Panel V2 Support

- In GV-FR Panel V2 (version V1.20 or later), the GV-Face mobile app supports the panel **only in Standalone mode**.
- For GV-FR Panel V2 **in GV-ASManager mode**, use the GV-ASManager system to enroll faces and the GV-Access mobile app to receive push notifications.

1.3 Overview

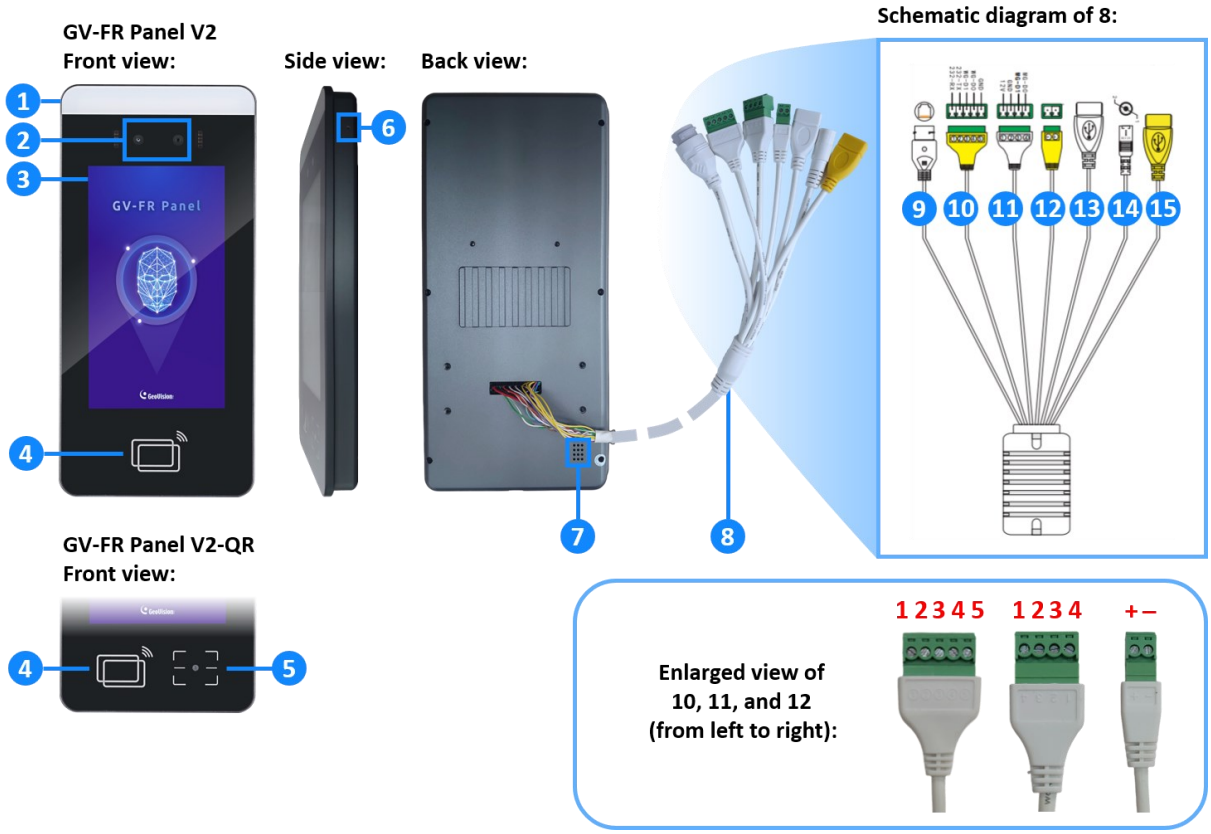
1.3.1 GV-FR Panel V1



No.	Name	Function
1	LED Light	• White LED: Turns on LED lighting when its radar sensor detects motion. • Green LED: Turns on when recognizing registered faces. • Red LED: Turns on when detecting unknown faces.
2	Built-in Cameras	Captures real-time live images at the front of the panel.
3	Touchscreen Panel	Displays the live images captured by the built-in cameras and accesses its local settings.
4	QR Code Reader	Reads QR codes used for access control. (The QR code LED turns on when detecting motion around.)
5	Rear Panel	Contains all the ports of the GV-FR Panel V1. (See No. 6 – 10.)
6	Reset Button	Restarts the GV-FR Panel V1.
7	Wiegand Port	Connects to 3rd-party controllers. (See *Chapter 7 Third-Party Controller Integration*.)
8	USB OTG PH2.0-4P Port	Connects to a PC for data backup and/or firmware upgrade via the supplied USB OTG PH2.0-4P cable. (Currently not functional.)
9	USB Host PH2.0-4P Port	Connects to a USB keyboard or mouse via the supplied USB Host PH2.0-4P cable.
10	RJ-45 Port	Connects to the network via the supplied RJ-45 cable.

11	Relay Output	Contains the following 3 relay pins: NO, COM, and NC.
12	2-Pin Power connector	Connects to power via the supplied 2-pin power cable and an optional power adapter.
13	Microphone	Receives audio. (Enabled by default.)
14	Speaker	Sounds when typing the settings on the touchscreen, swiping a card, and scanning the QR code.
Note: The SIM card slot and RS-485 and RS-232 ports are not functional.		

1.3.2 GV-FR Panel V2



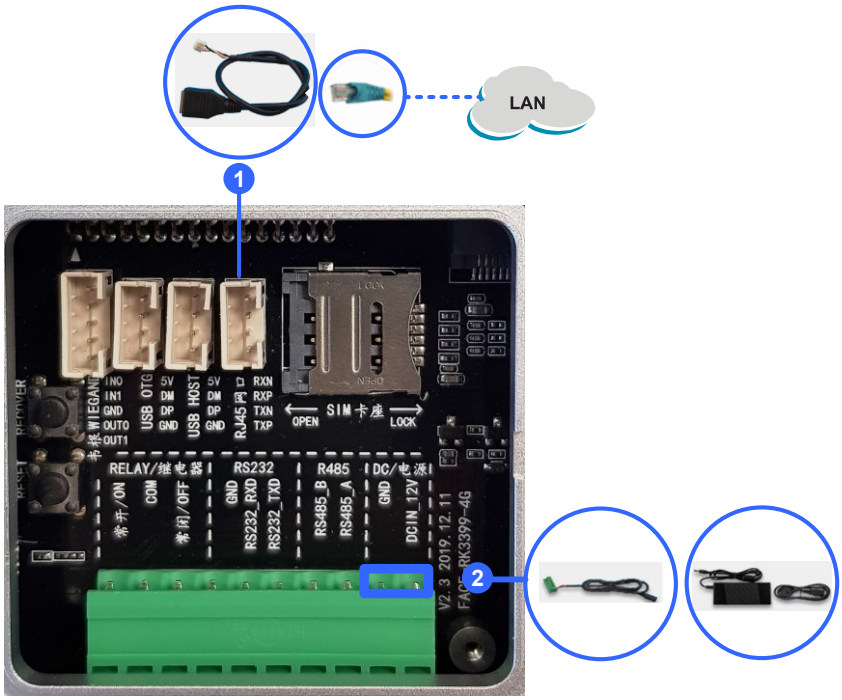
No.	Name	Function
1	LED Light	• Green LED: Turns on when recognizing registered faces. • Red LED: Turns on when detecting unknown faces.
2	Built-in Cameras	Captures real-time live images at the front of the panel.
3	Touchscreen Panel	Displays the live images captured by the built-in cameras and accesses its local settings.
4	Card Reader	Reads ID cards or tags.
5	QR Code Reader	Reads QR codes used for access control.
6	Microphone	Receives audio.
7	Speaker	Sounds when playing the audio clip “Please wear a face mask,” when users type the settings on the touchscreen, swipe a card, scan the QR code, and when customer support gives instructions remotely.
8	Data Cable	Contains all the ports of GV-FR Panel V2. (See No. 9 – 15.)
9	RJ-45 Port	Connects to the network using a user-supplied Ethernet cable. (See *1.4 Connecting GV-FR Panel*.)

10	Wiegand Output	Connects to 3rd-party controllers. (See *Chapter 7 Third-Party Controller Integration*.) Contains the following 5 pins: 1. 232-RX (Not functional.) 2. 232-TX (Not functional.) 3. Wiegand Output Data 0 4. Wiegand Output Data 1 5. GND **Note:** The Wiegand Output pins (Data 0 and Data 1) and the GND pin must be connected when integrating with a third-party controller.
11	Wiegand Input	Contains the following 4 pins: 1. 12V (Not functional.) 2. GND (Not functional.) 3. Wiegand Input Data 1 (Not functional.) 4. Wiegand Input Data 0 (Not functional.)
12	Relay Output	Contains the following 2 relay pins: COM (+) and NO (-).
13	USB Host PH2.0-4P Port	Connects to a USB keyboard or mouse.
14	Power Input	Connects to power using the supplied power adapter. (See *1.4 Connecting GV-FR Panel*.)
15	USB OTG PH2.0-4P Port	Not functional.

1.4 Connecting GV-FR Panel

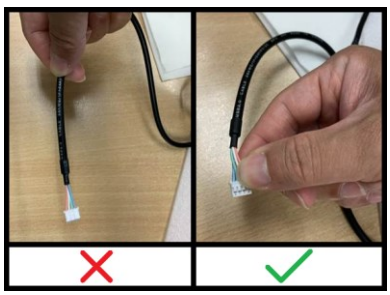
1.4.1 GV-FR Panel V1

To connect GV-FR Panel V1, follow the steps below.



1. Connect the GV-FR Panel V1 to the network using the supplied RJ-45 cable with a user-supplied Ethernet cable.
2. Connect the GV-FR Panel V1 to power using the supplied 2-pin power cable and an optional power adapter.

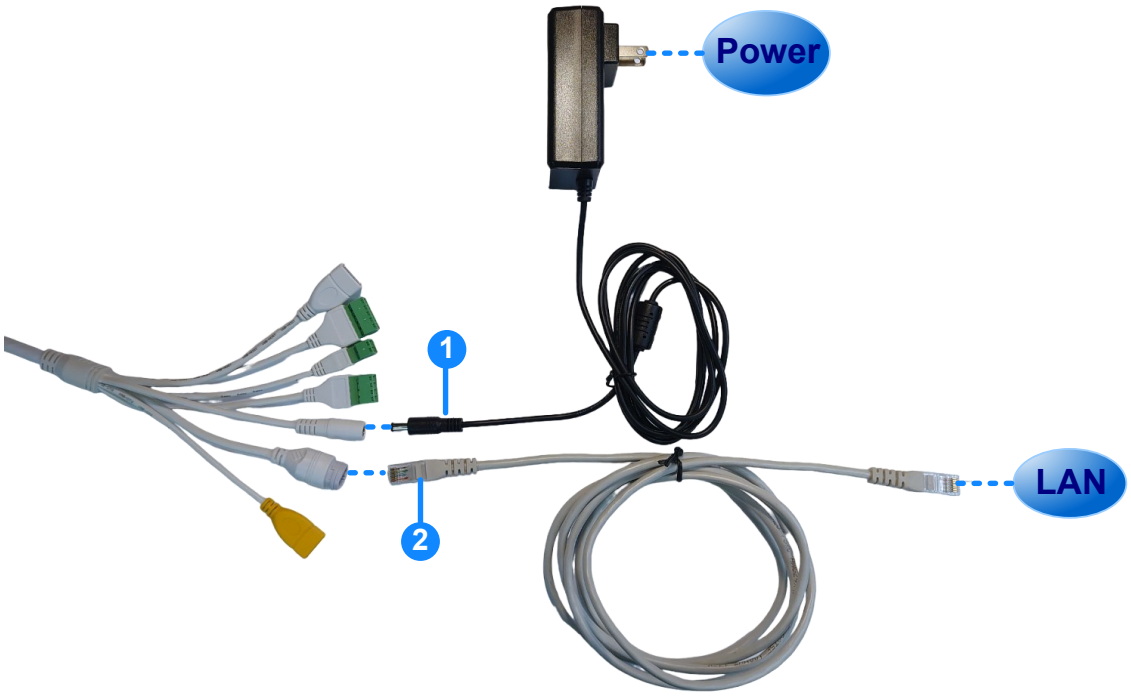
Note: When unplugging a connected cable (No. 3 / 4 / 5 / 6 / 7, *1.2 Packing List*) from GV-FR Panel V1 for any reason, grip firmly onto the terminal block and pull out slowly. Do not pull the cable by the cord.



Upon first startup of GV-FR Panel V1, users are prompted to set a login password for the Administrator account. Once the password is configured, the live view from the GV-FR Panel V1's built-in camera will be displayed. For details, see *Chapter 2 Getting Started*.

1.4.2 GV-FR Panel V2

To connect GV-FR Panel V2, follow the steps below.



1. To connect GV-FR Panel V2 to power, connect from the power input of the data cable to power using the supplied power adapter.
2. To connect GV-FR Panel V2 to the network, connect from the RJ-45 port of the data cable to the network using a user-supplied Ethernet cable.

See *1.3 Overview* for details on the data cable.

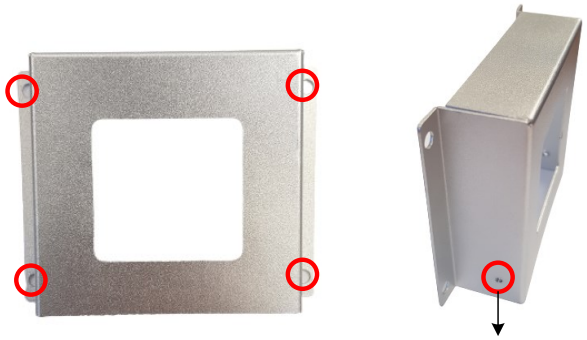
Upon first startup of GV-FR Panel V2, users are prompted to set a login password for the Administrator account. Once the password is configured, the live view from the GV-FR Panel V2's built-in camera will be displayed. For details, see *Chapter 2 Getting Started*.

1.5 Standard Installation

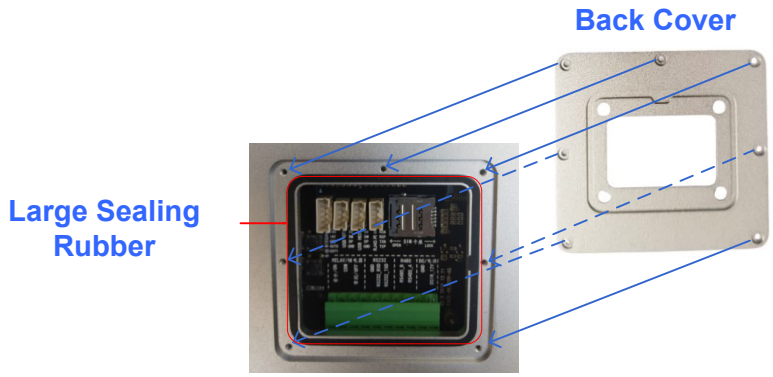
1.5.1 GV-FR Panel V1

For installing GV-FR Panel V1 on a wall, follow the steps below.

1. Place the mounting bracket on the wall and mark the locations of the 4 screw positions as illustrated below.



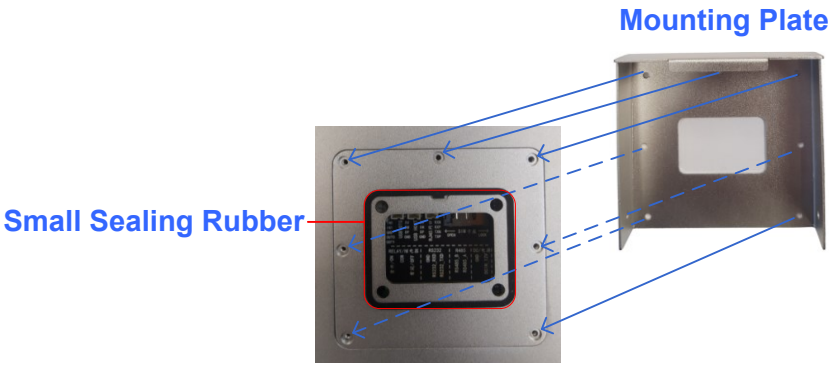
2. At each of the four marked screw positions on the wall, drill a hole slightly smaller than the supplied plastic screw anchors.
3. Insert the four plastic screw anchors into the drilled holes, and secure the mounting bracket to the wall using the supplied screws.
4. Secure the **large sealing rubber** and the **back cover** to the back of the GV-FR Panel V1 using the supplied screws.



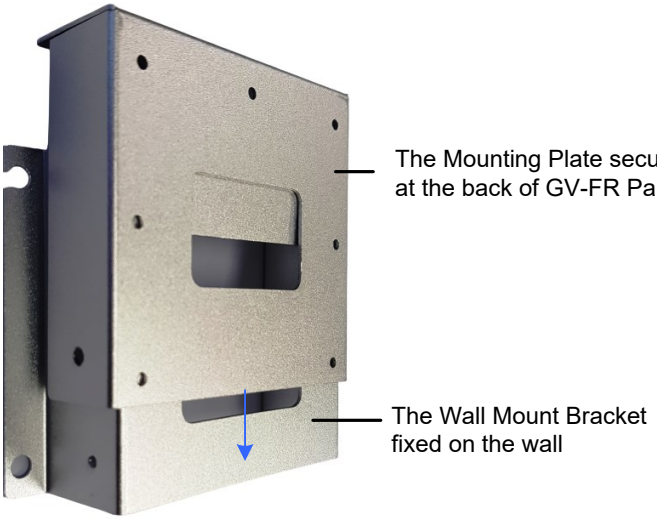
Note: Thread the necessary cables through the back cover and connect them to the panel before securing the cover.

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5. Secure the **small sealing rubber** and the **mounting plate** to the GV-FR Panel V1 using the supplied screws.



6. Secure the GV-FR Panel V1 to the wall by attaching its mounting plate onto the wall mount bracket.



7. Insert a screw on each side of the wall mount to secure it and complete the installation.

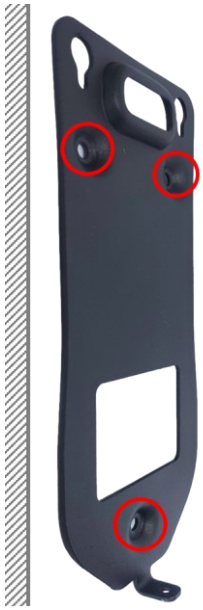


1.5.2 GV-FR Panel V2

1.5.2.1 Wall Installation

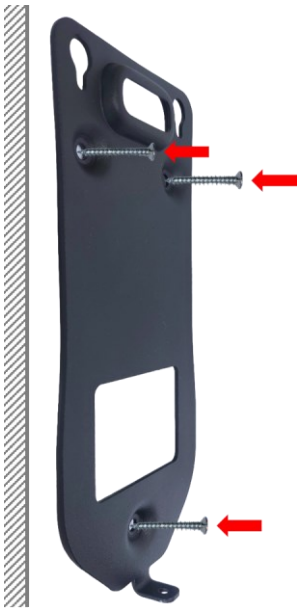
To install GV-FR Panel V2 on a wall, follow the steps below.

1. Place the mounting bracket on the wall, and mark the locations of the three screw positions as illustrated below.



2. At each of the three marked screw positions on the wall, drill a hole using a 6 mm (0.24 in) drill bit. The depth should be 35 to 40 mm (1.38 to 1.57 in).

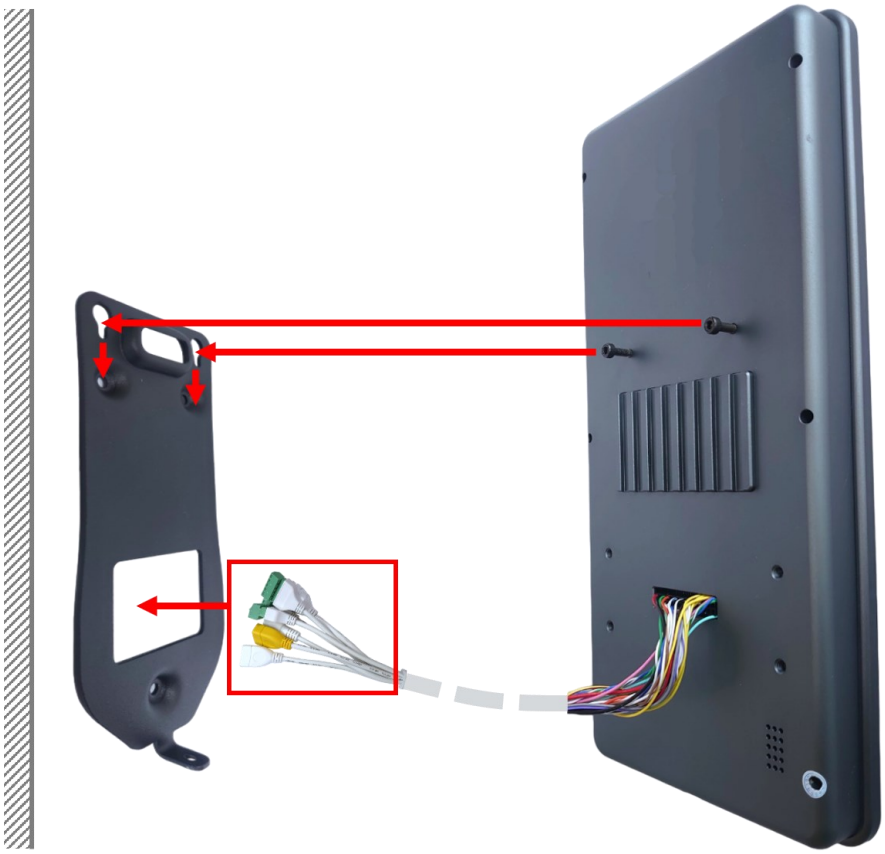
3. Insert three of the supplied plastic anchors into the drilled holes, and secure the mounting bracket to the wall using three of the supplied 29 mm (1.14 in) screws.



4. Secure two of the supplied 10 mm (0.39 in) socket screws to the back of GV-FR Panel V2. Use the provided Allen wrench if needed.



5. If a wall hole is drilled to conceal the cables, guide the data cable attached to GV-FR Panel V2 through the square hole in the mounting bracket and into the wall; if not, let it hang down from the panel without passing through the bracket. Align the two socket screws on the panel with the holes at the top of the bracket, allowing the panel to hang securely on the bracket.



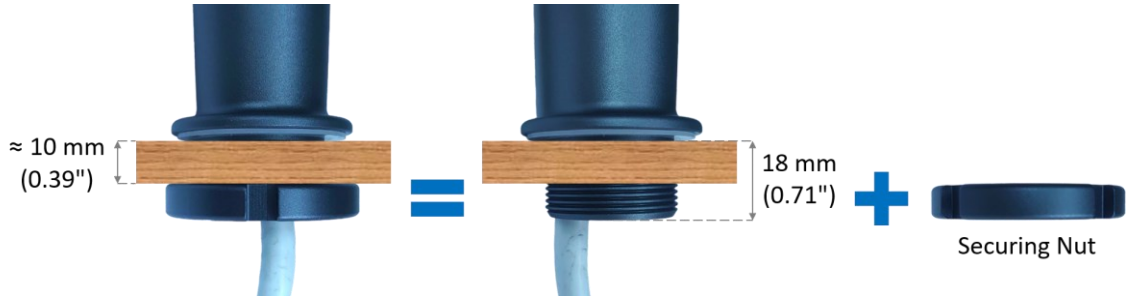
6. To complete the installation, secure the mounting bracket to GV-FR Panel V2 from the bottom using one of the provided 5 mm (0.20 in) screws.



1.5.2.2 Desktop Installation

To install GV-FR Panel V2 with Pillar Stand on a horizontal surface (such as a counter or desk), follow the steps below.

1. Select a suitable horizontal surface no thicker than approximately 10 mm (0.39 in). leaving space for the securing nut along the 18 mm (0.71 in) thread.

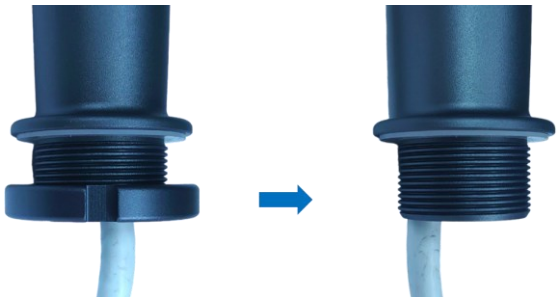


Note: The 10 mm (0.39 in) measurement is an estimate; use your discretion when selecting the surface.

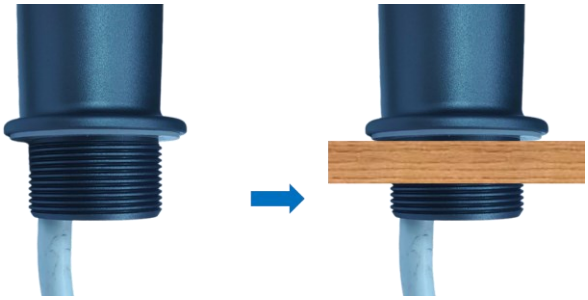
2. Drill a hole in the surface to fit the pillar stand. The hole should be slightly larger than the stand's outer diameter of 33 mm (1.30 in) to allow smooth insertion.



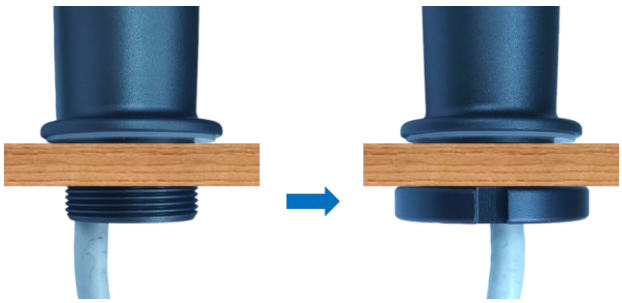
3. Detach the securing nut from the end of the pillar stand. Slide the nut along the length of the cables until it is fully removed.



4. Route the cables through the drilled hole, and then insert the pillar stand (already attached to the back of GV-FR Panel V2) through the hole until the stand sits firmly on the surface.



5. On the opposite side of the surface, thread the cables through the securing nut, and then screw the nut onto the end of the pillar stand until the stand is securely mounted.



6. Adjust the tilt angle of GV-FR Panel V2 by loosening the cover on top of the pillar stand. Once you have adjusted the angle, re-tighten the cover to lock the tilt angle in place.

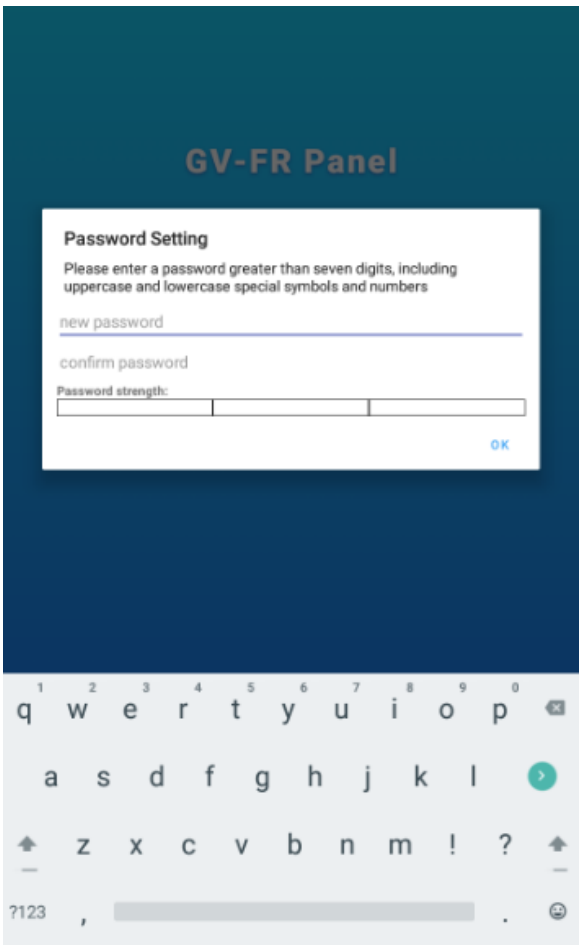


Chapter 2 Getting Started

This chapter guides first-time users in accessing the GV-FR Panel, checking its IP address to enable access through a Web browser, and configuring its local settings.

2.1 Accessing GV-FR Panel

Upon first startup of the GV-FR Panel, users are prompted to set a login password for the Administrator account. Once the password is configured, the live view from the GV-FR Panel's built-in camera will be displayed.

GV-FR Panel V1:	GV-FR Panel V2:
	

After faces are registered and recognized by the GV-FR Panel, a confirmation screen is displayed over the live image.



Face Registration Methods

There are several methods available for registering faces, depending on your system configuration:

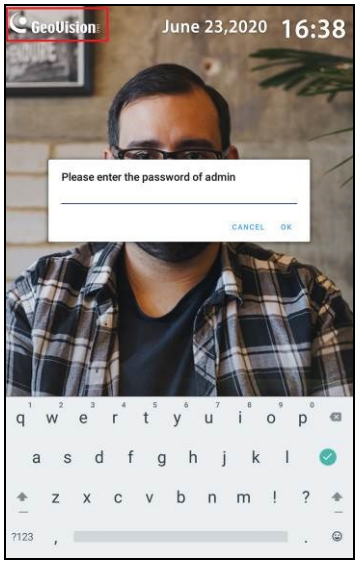
For GV-ASManager Integration
• **Via GV-ASManager:** See *Chapter 3 Access Control Integration* and *Chapter 4 User Management in GV-ASManager and GV-FR Panel.*
For Standalone Mode
• **Local Enrollment:** Enroll directly at the panel hardware. See the *Local Enroll Mode* option in *2.3 Local Settings*.
• **Web interface:** Access the panel's Web interface and navigate to **Face Management** > **Face Profiles**. See *5.3 Face Management* for details on profile creation.
• **GV-Face Manager Utility:** Use the utility for batch database management. See 6.*3 GV-Face Manager for Face Database Management*.
• **GV-Face Mobile App:** Register faces via the mobile application. See *Chapter 5 Registering Face IDs to GV-AI FR Server / GV-FR Panel* in *GV-Face Mobile App Installation Guide*.
For GV-Cloud Integration
• **GV-Cloud Access Control:** Enroll facial images and cards directly through the cloud portal. See *9.3 Enrolling Facial Images and Cards*.

2.2 Locating the Panel on the Network

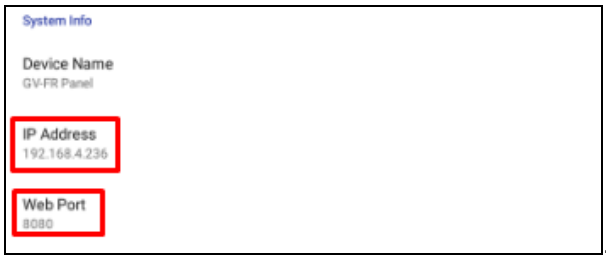
By default, GV-FR Panel is assigned an unused IP address by the DHCP server when connected to a network. This IP address remains unchanged unless you unplug or disconnect your reader from the network.

To check the current IP address of your GV-FR Panel, follow the steps below.

1. On the main screen of GV-FR Panel, tap the **GeoVision logo** at the upper-left corner of the touchscreen to enter the settings page. You're prompted to type the password of its Administrator account.



2. On the settings page, find the **IP Address** and **Web Port** of the GV-FR Panel.

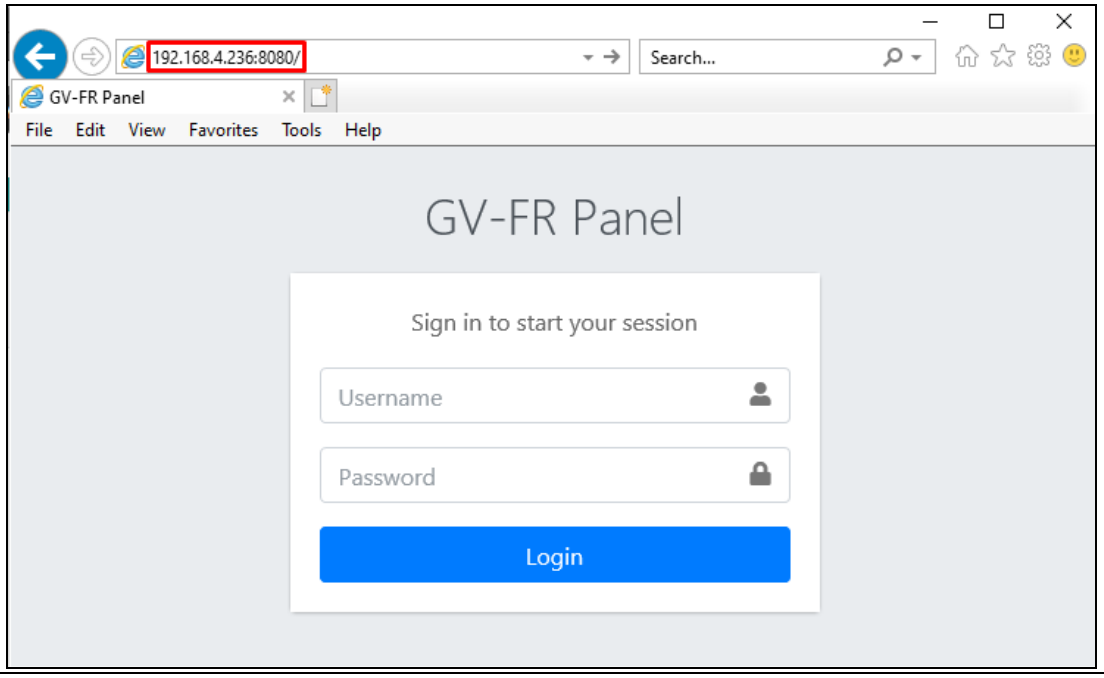


Note: If the IP address appears as "0.0.0.0," this means that the network has not been established. Plug in the Ethernet cable to obtain the IP address. See *1.4 Connecting GV-FR Panel*.

---

3. On a PC, open a Web browser and enter the IP address and Web port of the GV-FR Panel in the address bar. The login page appears.

Format: [IP address]:[Port number]
Example: 192.168.4.236:8080



IMPORTANT: For accessing GV-FR Panel, it is required to add a colon and the port number (default port: 8080) after the IP address, e.g. http://192.168.4.236:8080.

4. Type *admin* for the username and type the Administrator password of the GV-FR Panel to log in.

For the detailed settings available on the Web interface of GV-FR Panel, see *Chapter 5 Administrator Mode*.

Note:

1. The IP address can **only** be modified directly on the GV-FR Panel. To assign a static IP address, access the local settings on the device. See *2.3 Local Settings*.
2. You can also use GV-IP Device Utility to search for the IP address of GV-FR Panel. See *6.1 Upgrading System Firmware*.

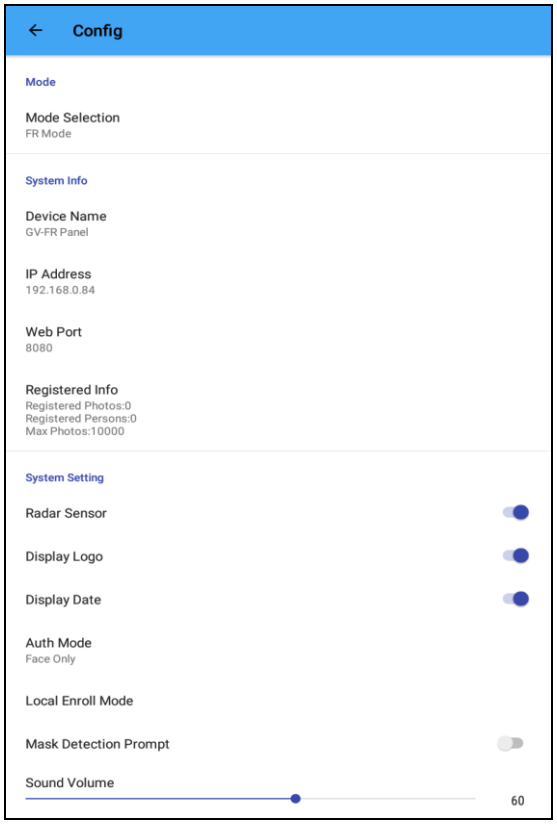
2.3 Local Settings

To access the GV-FR Panel's local settings, tap the **GeoVision logo** at the upper-left corner of the touchscreen panel, and type the login password that you've set. The following settings page appears.

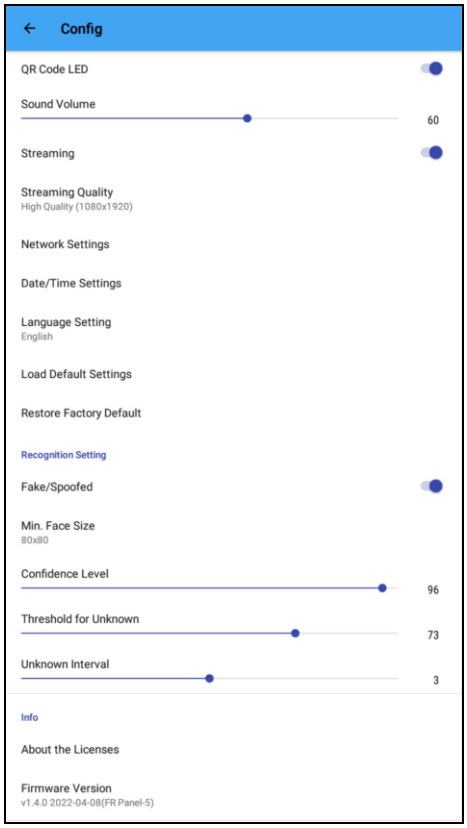
Note: If no logo is displayed at the upper-left corner of the touchscreen panel, tap the empty upper-left corner, and the password prompt will appear as usual.

GV-FR Panel V1:

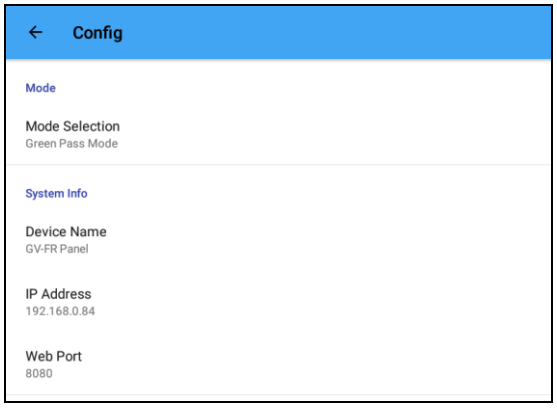
[FR Mode – Screenshot Page 1]



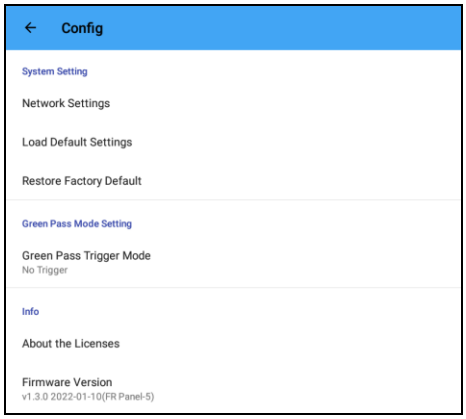
[FR Mode – Screenshot Page 2]



[Green Pass Mode – Screenshot Page 1]

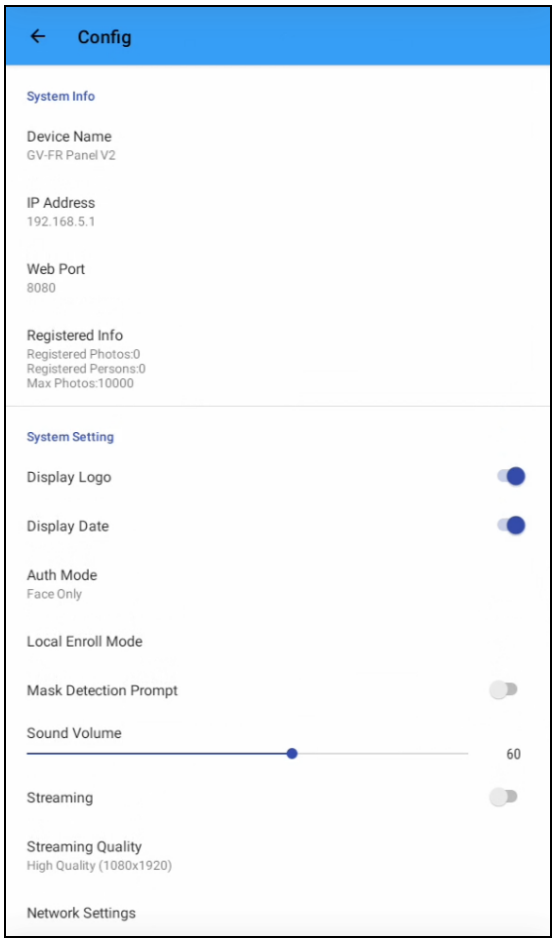


[Green Pass Mode – Screenshot Page 2]

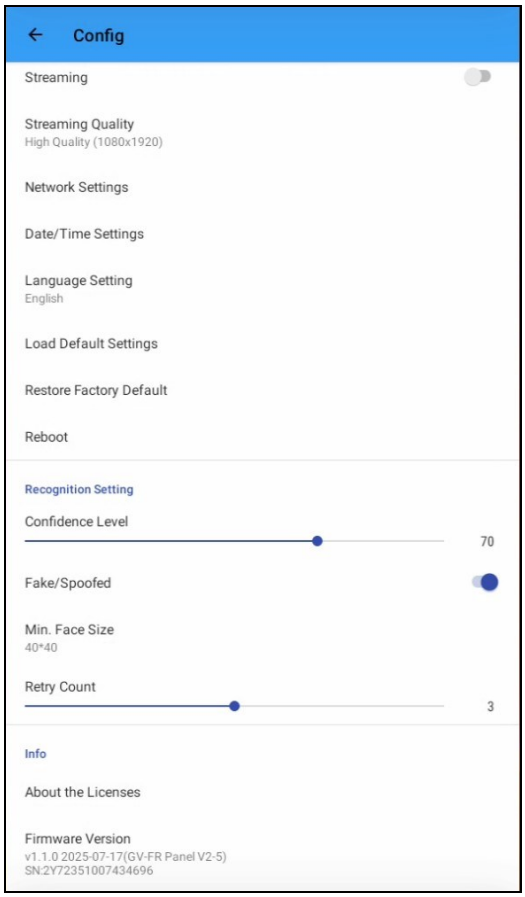


GV-FR Panel V2:

[Screenshot Page 1]



[Screenshot Page 2]



[Mode]

- **Mode Selection:** Only available for GV-FR Panel V1. Select **FR Mode** to grant access by face recognition, or **Green Pass Mode** to grant access by scanning QR codes of the EU Digital COVID Certificate.

Note: When using **Green Pass Mode** for the first time, it is required to connect GV-FR Panel to the Internet for accessing the database of the EU Digital COVID Certificate.

[System Info]

- **Device Name:** Displays the name of the device. “GV-FR Panel” and “GV-FR Panel V2” are set as the default names for GV-FR Panel V1 and GV-FR Panel V2 respectively. To change the device name from the device’s Web interface, see *5.2.1 System Settings*.
- **IP Address:** Displays the IP address of the device. To change the IP address, see **Ethernet Setting** below.
- **Web Port:** Displays the web port value of the device. The default value is 8080.
- **Registered Info:** Displays the number of users and face images currently registered.

[System Settings]

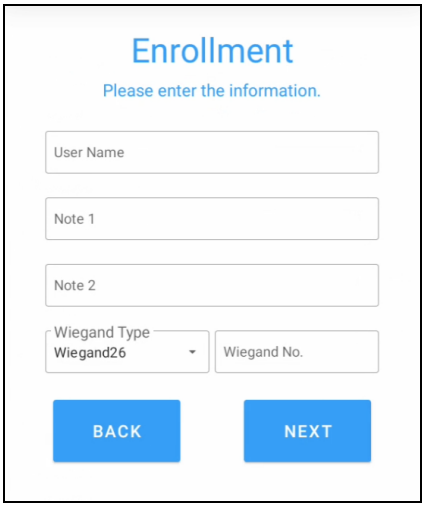
- **Radar Sensor:** Only available for GV-FR Panel V1. Enable radar sensor for detecting motion and automatically turning on the device’s white LED.
- **Display Logo:** Enabled by default. Displays the GeoVision logo or custom logo on the touchscreen panel.
- **Display Date:** Enabled by default. Displays the time and date at the upper-right corner of the touchscreen panel.
- **Auth Mode:** Select to authenticate and grant user access by *Face Only* mode, *Card or Face* mode, or *Card and Face* mode. **Face Only** mode is enabled by default.

Note: The *Card or Face* mode also supports reading the QR code of visitor access issued by GV-VMWeb. See *Chapter 12 GV-VMWeb for Visitor Management* in *GV-ASManager User’s Manual*.

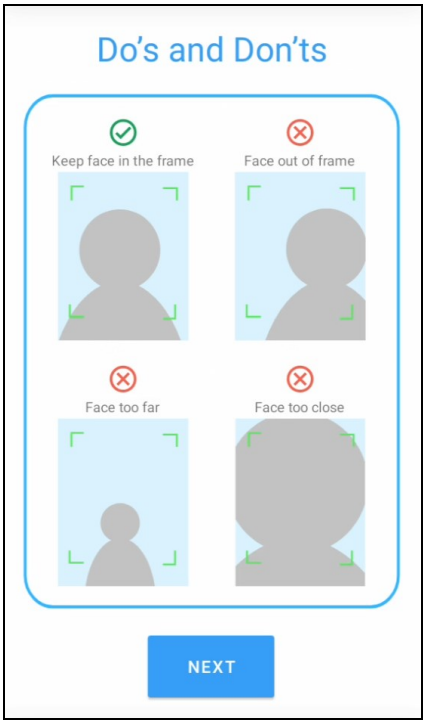
- **Display NFC Detection Area:** Only available for GV-FR Panel V1. The option is available only when *Card or Face* is selected for Auth Mode. Disable to remove the NFC detection area on the touchscreen panel.

■ **Local Enroll Mode:** Select to enroll faces directly on GV-FR Panel by following the steps below.

1. Open Local Enroll Mode and fill in the blank fields. Click **Next**.



2. Take a photo following the Do's and Don'ts guidelines. Click **Next**.



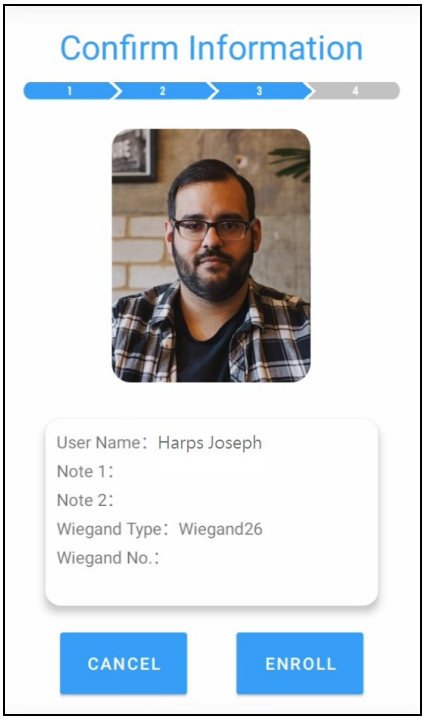
3. Check the photo. Retake or add a new photo if needed.

   Click **Next** to proceed.



4. Confirm the information.

   Click **Enroll** to complete the face enrollment.



- **Mask Detection Prompt:** Click to enable **Voice Alert for Mask** and **Display Mask Info**.
  - **Voice Alert for Mask:** The audio clip “Please wear a face mask” is played when a face without a mask is presented.
  - **Display Mask Info:** The notice “Please wear a face mask” is displayed when a face without a mask is presented.
- **QR Code LED:** Only available for GV-FR Panel V1. Enabled by default, QR Code LED turns on when detecting motion around. The option is available only when the Auth Mode is set to *Card or Face* mode.
- **Sound Volume:** Adjusts the sound volume of the device. The default value is 60.
- **Streaming**: Click to allow connection to GV-VMS.
- **Streaming Quality**: Adjusts the live streaming resolution, including *High Quality (1080x1920)*, *Medium Quality (480x720)*, and *Low Quality (480x640)*. **High Quality (1080x1920)** is selected as default.
- **Network Settings:** Enable **DHCP** or **assign a static IP address**.
- **Date/Time Settings:** Adjusts the date and time settings of the device.
  - **Automatic date & time:** Enabled by default. Uses network-provided time.
  - **Time Zone:** Select the time zone. Adjusts automatically according to network changes.
  - **Set date:** Enabled when **Automatic date & time** is disabled. Set the date manually.
  - **Set time:** Enabled when **Automatic date & time** is disabled. Set the time manually.
- **Language Setting:** Change the language of GV-FR Panel, from English as default, to Bulgarian, Chinese Simplified, Chinese Traditional, Czech, English, French, German, Indonesian, Italian, Japanese, Portuguese, Russian, Slovak, Spanish, Thai, and Ukrainian.
- **Load Default Settings:** Loads the default settings of the device.
- **Restore Factory Default:** Loads the default settings of the device while clearing all data registered.

IMPORTANT: The **Restore Factory Default** erases all your registered face profiles and event logs from GV-FR Panel.

- **Reboot:** Only available for GV-FR Panel V2. Restart the device.

[Recognition Settings]

- **Fake/Spoofed:** Disabled as default. Enable to detect if the face is presented and displayed on a digital device.

Note: In terms of anti-spoofing applications, liveness detection isn't applicable to all situations 100% of the time. For a higher level of security, the integration with GV-ASManager for double-authentication, access card + face recognition, is strongly suggested.

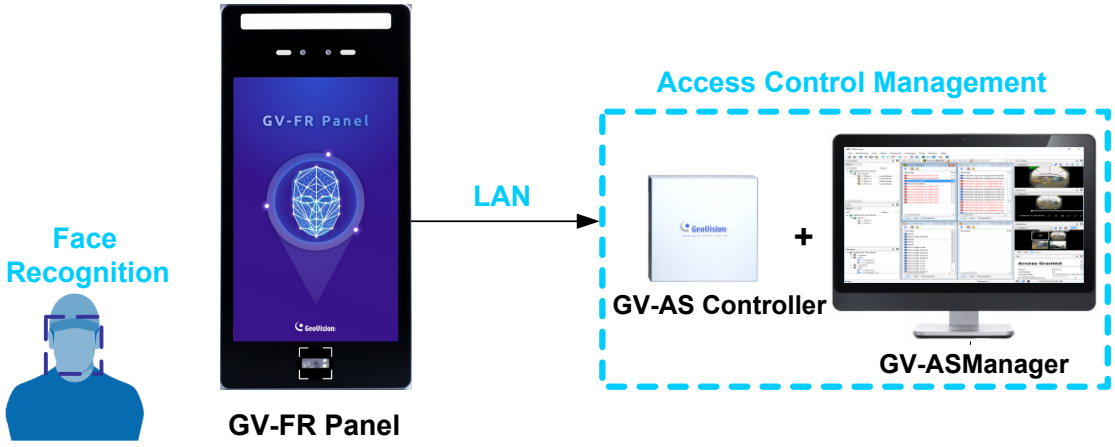
- **Min. Face Size:** Select the minimum face size in pixels for face recognition.
  The face sizes are as follows:
  GV-FR Panel V1: *80 x 80* (default), *100 x 100*, *120 x 120*, *140 x 140*, and *160 x 160*.
  GV-FR Panel V2: *40 x 40* (default), *60 x 60*, *80 x 80*, *100 x 100*, *120 x 120*, *140 x 140*, and *160 x 160*.
  Refer to the technical notice for how to set the min. face size.
- **Confidence Level:** Adjusts the confidence level for face recognition. The higher the level, the more definitive and stricter the device is toward distinguishing between similar faces. The default value is *80* for GV-FR Panel V1 and *70* for GV-FR Panel V2.
- **Threshold for Unknown:** Only available for GV-FR Panel V1. Adjusts the unknown threshold for face recognition. Face recognition events below this confidence value are recorded as unknown. The default value is 73.
- **Unknown Interval:** Only available for GV-FR Panel V1. The amount of time in seconds before face recognition can be performed again on recognition targets that have been identified as unknown.
- **Retry Count:** Only available for GV-FR Panel V2. The number of times facial recognition can be repeated on recognition targets before they are identified as unknown. The retry count ranges from 1 to 5. The default value is 3.

[Info]

- **About the Licenses**: Displays the detailed product license information.
- **Firmware Version**: Displays the firmware version of the GV-FR Panel.

Chapter 3 Access Control Integration

This chapter explains how to set up the connections among the GV-FR Panel, GV-AS Controller and GV-ASManager system.



Users must complete all the configurations in Chapter 3 to connect GV-FR Panel to GV-AS Controller and the GV-ASManager system:

Integration with GV-ASManager
Add GV-AS Controller and GV-FR Panel to GV-ASManager

3.1 Adding GV-AS Controller

3.2 Configuring GV-FR Panel as a Door

3.3 Verifying the Connection with GV-ASManager

↓

User Management in GV-ASManager and GV-FR Panel

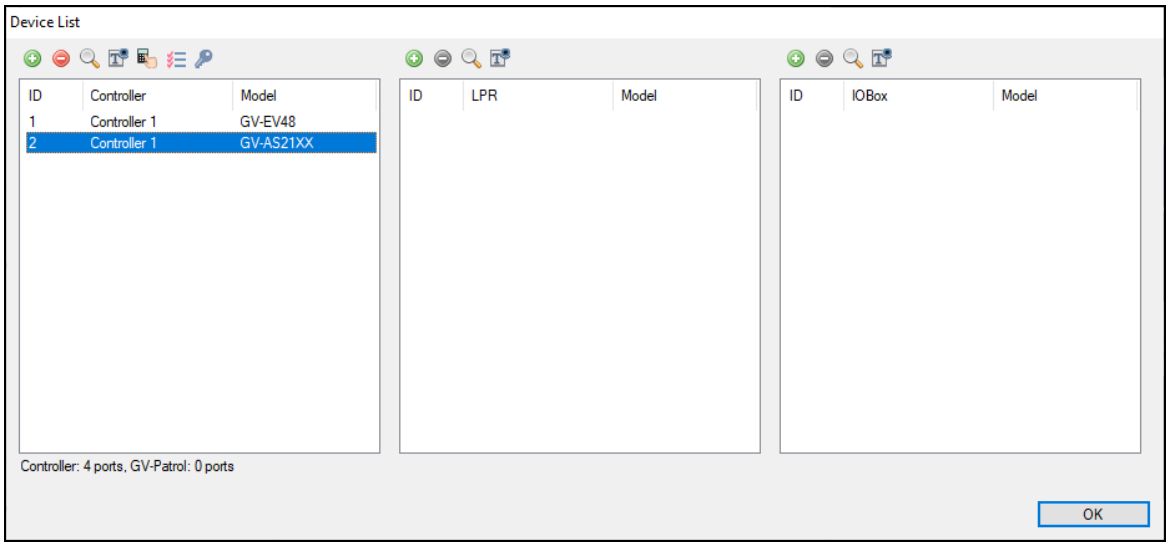
Once the three -- GV-FR Panel, GV-ASController and GV-ASManager -- are connected, enroll user faces in GV-ASManager. See *Chapter 4*.

Note: Make sure your GV-AS Controller and GV-ASManager support connecting to GV-FR Panel via network. See *Firmware and Software Compatibility* at the beginning of the manual.

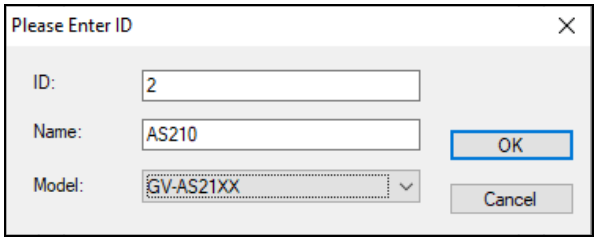
3.1 Adding GV-AS Controller

To connect GV-FR Panel and GV-AS Controller to GV-ASManager, you need to first connect GV-AS Controller to GV-ASManager. To do so, follow the steps below.

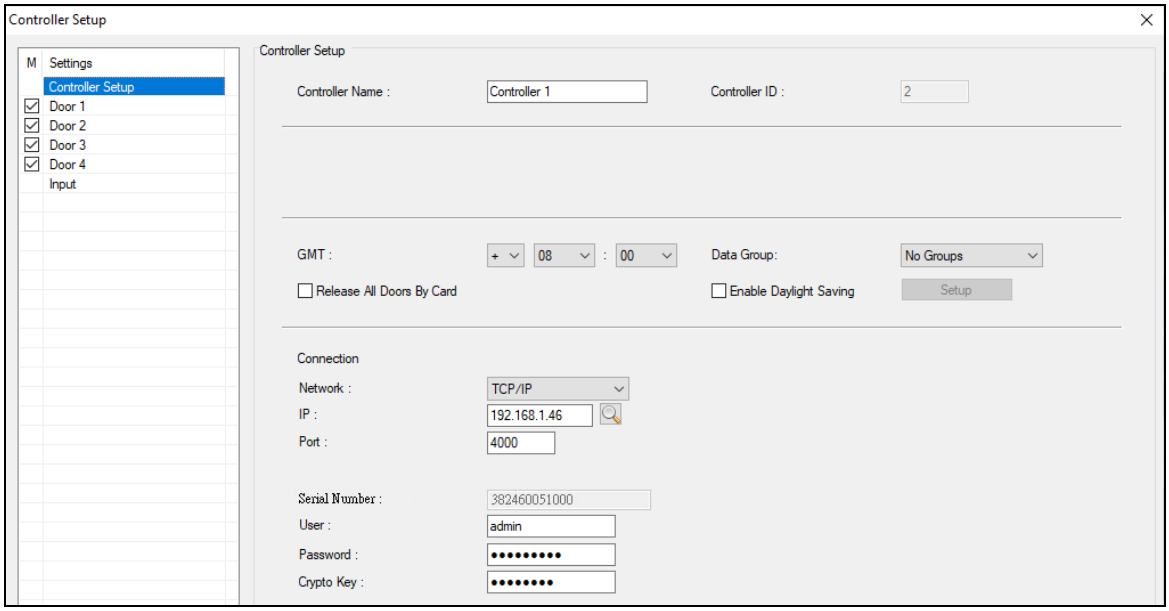
1. On the menu bar of GV-ASManager, click **Setup** and select **Devices**. The Device List dialog box appears.



2. Click the **Add** icon on the top left corner. This dialog box appears.



3. Specify the **ID**, **Name** and **Model** of the controller to be connected and click **OK**. This dialog box appears.



Note: Ensure the ID matches the controller setting (**Advanced Setting** > **Function Configuration**).

4. In the **Network** dropdown list, select **TCP/IP** as the communication mode between the controller and GV-ASManager.
5. Type the **IP address**, **port number**, **login user**, **password** and **Crypto key** (3DES code) of the controller. You can also click the **Search** button to search for controllers within the same LAN.

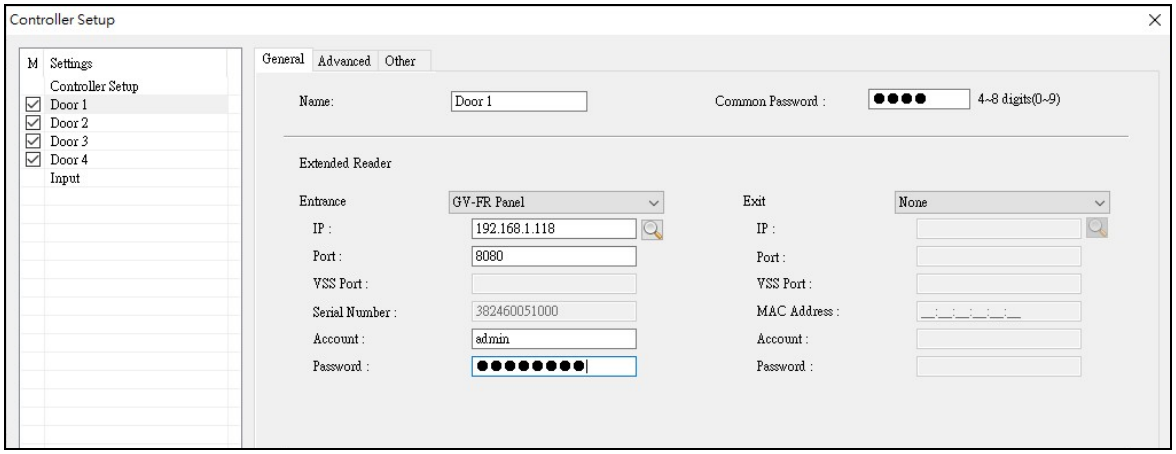
Note: By default, GV-AS Controller has a port value of **4000**.

6. To check if connection settings are correct, click **OK**, and a icon should appear in the Device View window indicating successful connection between the controller and GV-ASManager.

3.2 Configuring GV-FR Panel as a Door

Once the GV-AS Controller is successfully connected to GV-ASManager, you must link the GV-FR Panel to the GV-AS Controller. Follow the steps below to complete the connection.

1. On the menu bar of GV-ASManager, click **Setup** > **Devices**.
2. Double-click the controller that GV-FR Panel will be connected to and select a **Door** on the left pane. This dialog box appears.



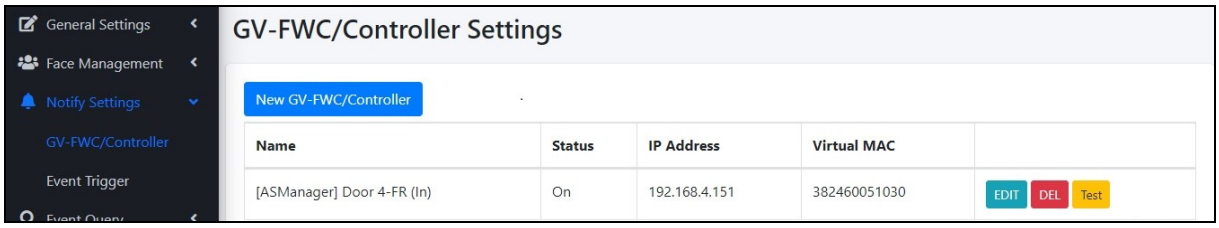
3. Select **GV-FR Panel** from the **Entrance** and/or **Ext** dropdown list, based on your installation scenario.
4. Enter the **IP address**, **Port number**, **Account ID** and **Password** of the GV-FR Panel.
5. Click **OK**. The GV-FR Panel is connected to the controller and GV-ASManager is also connected with GV-FR Panel.

3.3 Verifying the Connection with GV-ASManager

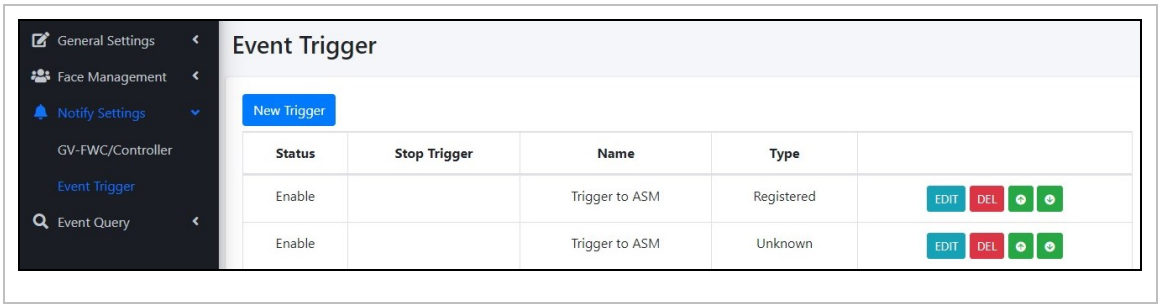
You can verify the connection between the GV-FR Panel and GV-ASManager system. GV-FR Panel V1 and V2 has different verification pages.

GV-FR Panel V1:

1. On the GV-FWC / Controller Setting page (**Notify Settings** > **GV-FWC/Controller**), you should find an entry, for example, *[ASManager] Door 4-FR (In)*, written back from GV-ASManager to indicate which controller IP and door are connected.

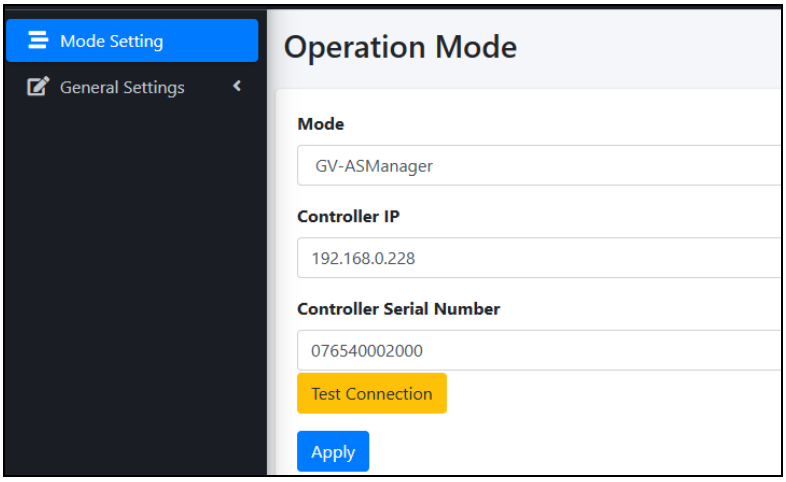


2. On the Event Trigger page (**Notify Settings > Event Trigger**), you should see two "**ASM**" entries. Regardless of the condition (registered or unknown faces/cards), both will trigger the GV-FR Panel to send access data to GV-ASManager.



GV-FR Panel V2:

On the Mode Setting page, the **Controller IP** and **Serial Number** are retrieved back from GV-ASManager and displayed. You can also click **Test Connection** to verify communication with the controller.



If the verification fails, check the connection between the GV-FR Panel and the controller, see *Appendix 1*.

Chapter 4 User Management

Once the connections among the GV-FR Panel, GV-AS Controller, and the GV-ASManager system are established, you can begin creating and managing users in both GV-ASManager and GV-FR Panel.

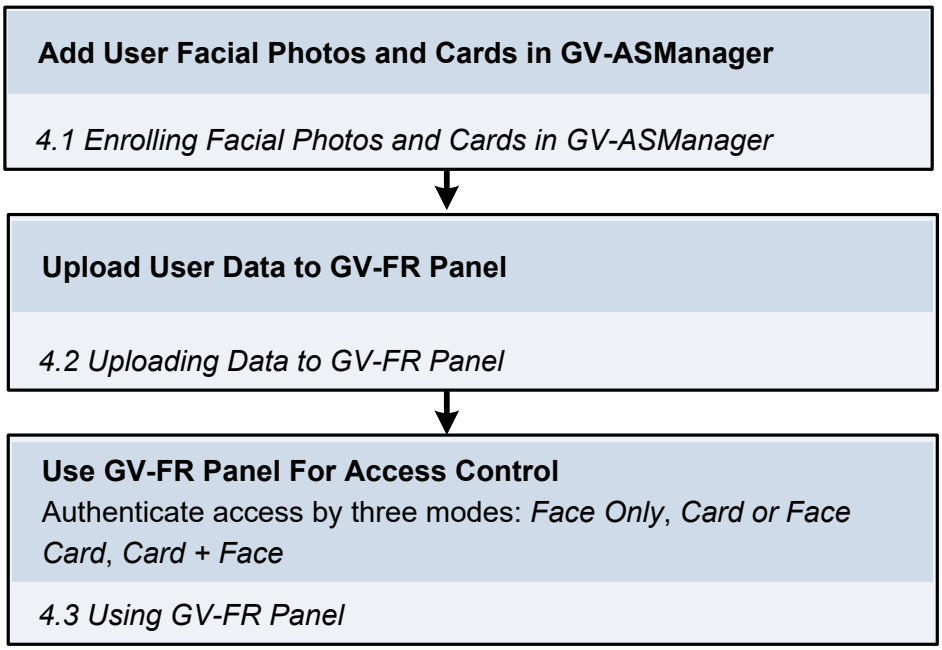
Setup Prerequisites:

Before enrolling face images in GV-ASManager, ensure the following settings have been completed in GV-ASManager:

- Cards added
- Users added with Cards assigned

For details, see *4.3 Adding Cards* and *4.6 Adding Users* respectively in *GV-ASManager User's Manual*.

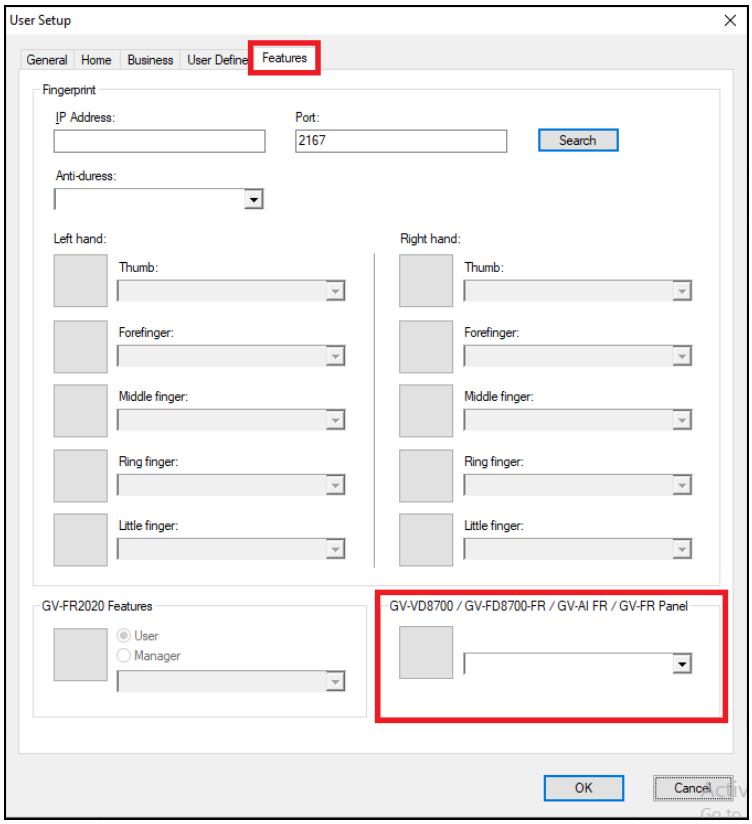
Follow the three steps below to enroll face images in GV-ASManager and sync the user data to GV-FR Panel:



4.1 Enrolling Face Images and Cards in GV-ASManager

To enroll face images and access cards for the Users in GV-ASManager, follow the steps below.

1. On the menu bar of GV-ASManager, click **Personnel** > **Users**. The User List window appears.
2. Double-click a User from the User List. The User Setup dialog box appears.
3. Select the **Features** tab.
4. Click on the image column under **GV-VD8700 / GV-FD8700-FR / GV-AI FR / GV-FR Panel**.

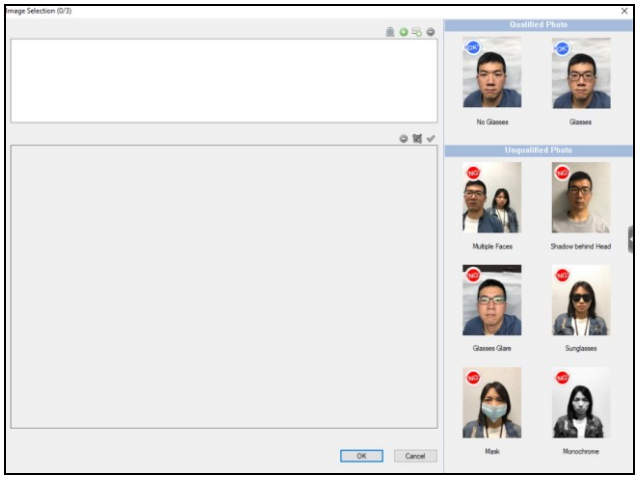


5. In the Image Selection window, use one of the following three options to add a face image for the User. Up to 3 images for one User can be added.

   A. Click **Webcam Capture** to take a photo with a connected webcam camera.

   B. Click **Add** to browse for a face image from the PC.

   C. Click **Add from Logs** to use a captured snapshot within the GV-ASManager's logs.



6. Optionally crop the face image if needed. Click **OK**.

7. After the face image has been added, select a card number for the User within the dropdown list next to the face image. The paired access card number can be used in *Card or Face* mode or *Card + Face* mode when applicable.

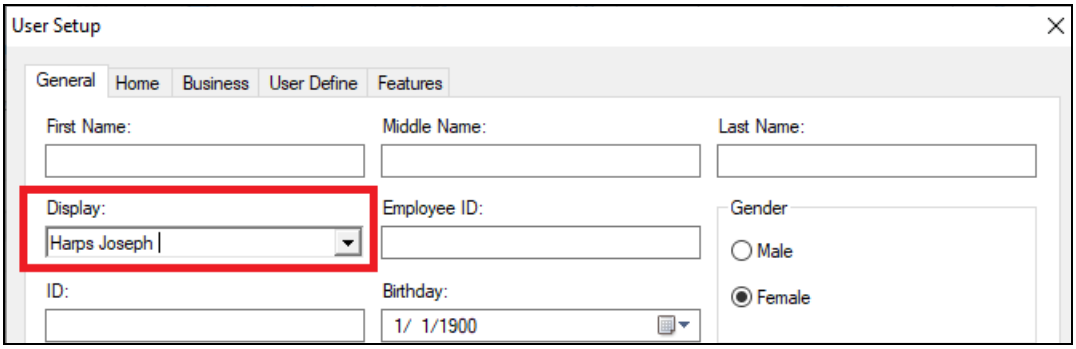


8. Click **OK** to apply the settings.

The face image has now been added to the User and paired to the access card number selected for face-recognition-based access control.

For FR-based access control to function properly, the same Users, along with their face images and card numbers, must also be uploaded to GV-FR Panel, see the following section *4.2 Uploading to GV-FR Panel*.

Note: When uploading Users to GV-FR Panel, their **Display Names**, configured in the User Setup dialog box, will be the names of faces in the GV-FR Panel database.



4.2 Uploading Data to GV-FR Panel

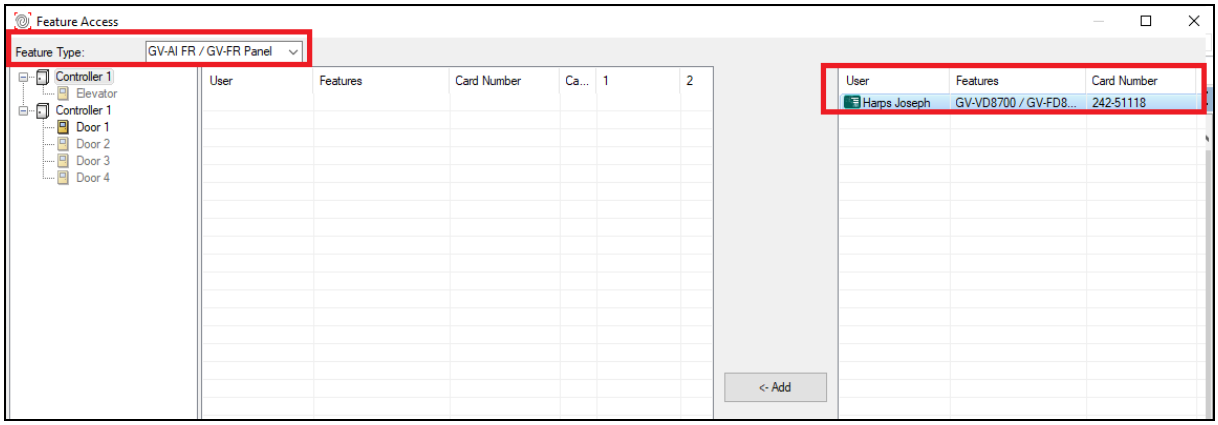
To upload Users, including their face images and card numbers, to GV-FR Panel, follow the steps below.

Face Image Upload Specifications

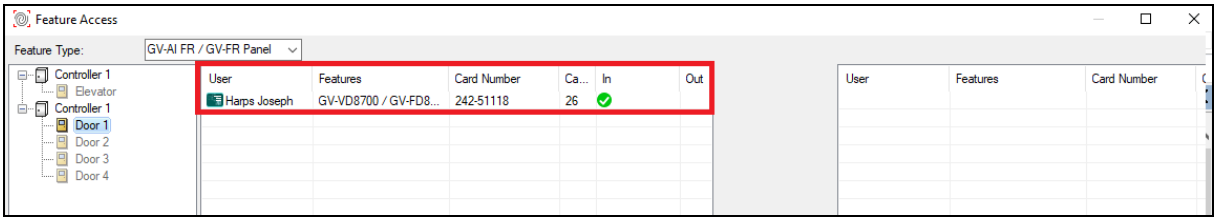
- Each GV-FR Panel can store up to **10,000** face images.
- The uploaded face images are saved simultaneously to both the GV-FR Panel and GV-ASManager.

To upload data:

1. On the menu bar of GV-ASManager, click **Setup** > **Feature Access**. The Feature Access dialog box appears.
2. Select **GV-AI FR / GV-FR Panel** from the **Feature Type**. From the left column, select the corresponding **Door** to which the GV-FR Panel is connected.
3. Select the desired User from the right column. The **Add** button becomes available.

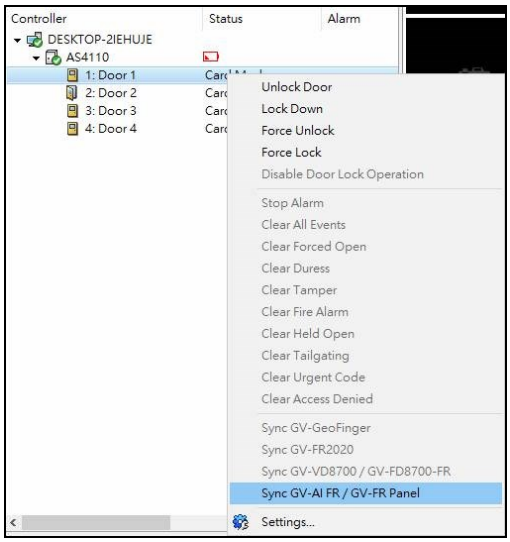


4. Click the **Add** button to add the User to the selected Door. The resulting window after adding may look like this, with a green tick indicating that the User has been successfully uploaded to the GV-FR Panel.



5. Click the ‘x’ icon to close the Feature Access window.

IMPORTANT: The **Sync GV-AI FR / GV-FR Panel** function in GV-ASManager will replace the current face database of GV-FR Panel, erasing all event logs on it.



4.3 Using GV-FR Panel

After uploading user data from GV-ASManager to GV-FR Panel, you can start managing access control using one of three authentication modes: **Face Only**, **Card or Face**, or **Card + Face**.

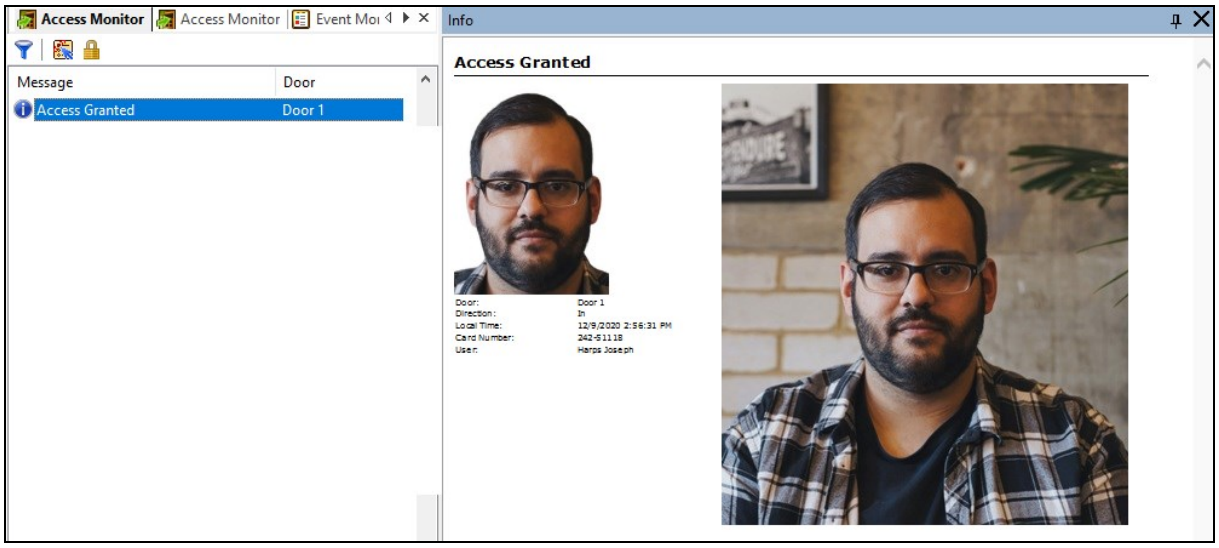
By default, GV-FR Panel is configured for **Face Recognition** only. The authentication mode must be configured directly on the device. See **Auth Mode** under [System Settings] in *2.3 Local Settings*.

4.3.1 Face Only Mode

In the default mode of face recognition only, when the presented face matches any registered user faces, a confirmation screen will appear on the GV-FR Panel and an access signal will be sent to the controller.



In GV-ASManager, an “Access Granted” message will be displayed. Clicking this message allows you to compare the user's enrolled face image with the live image captured onsite.



4.3.2 Card or Face Mode

The Card or Face mode allows users to gain access with either a paired card or face recognition. To manage access by face recognition or card swipe, make sure **Card or Face** is selected as the GV-FR Panel’s authentication mode, see *2.3 Local Settings*

4.3.3 Card + Face Mode

The Card + Face mode only allows users to gain access when both the user’s card and face have been authenticated. To manage access by card swipe and face recognition, make sure **Card and Face** is selected as the GV-FR Panel’s authentication mode, see *2.3 Local Settings*.

To be granted access, the personnel must first **swipe a paired card** and then perform **face recognition** on the GV-FR Panel. Once both authentications are successful, a confirmation screen will appear and an access signal will be sent to the controller. If the face presented **cannot be recognized within 7 seconds**, the access will be denied.

Chapter 5 Administrator Mode

The Administrator can access and configure all the settings of the GV-FR Panel over the network. The configuration categories include: **General Settings**, **Face Management**, **Notify Settings** and **Event Query**.

Corresponding Sections for Configuration Menu

GV-FR Panel V1 and **V2** have different configuration categories. Refer to the sections below to locate your topic of interest.

GV-FR Panel V1

5.2 General Settings	5.2.1 System Settings 5.2.2 Account & Authority 5.2.3 Recognition Settings 5.2.4 Relay Settings
5.3 Face Management	5.3.1 Face Profiles
5.4 Notify Settings	5.4.1 GV-FWC/Controller 5.4.2 Event Trigger
5.5 Event Query	5.5.1 Detail Log 5.5.2 Exported Files

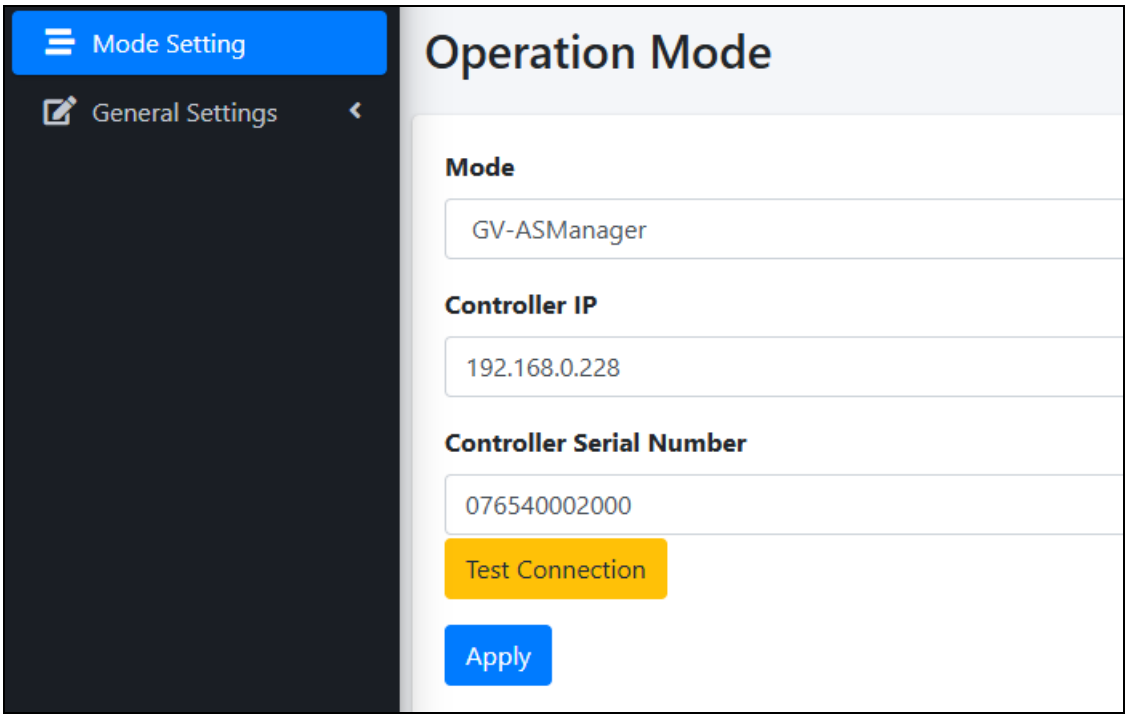
GV-FR Panel V2—GV-ASManager Mode / GV-Cloud Mode

5.1 Mode Settings	GV-ASManager or GV-Cloud
5.2 General Settings	5.2.1 System Settings 5.2.2 Account & Authority 5.2.3 Recognition Settings 5.2.4 Relay Settings 5.2.5 Tailgating Detection

GV-FR Panel V2—Standalone Mode

5.1 Mode Setting	Standalone
5.2 General Settings	5.2.1 System Settings 5.2.2 Account & Authority 5.2.3 Recognition Settings 5.2.4 Relay Settings 5.2.5 Tailgating Detection
5.3 Face Management	5.3.1 Face Profiles
5.4 Notify Settings	5.4.2 Event Trigger
5.5 Event Query	5.5.1 Detail Log 5.5.2 Exported Files

5.1 Mode Setting



Applicable to GV-FR Panel V2 only, you can switch the operation mode between **GV-ASManager, Standalone,** and **GV-Cloud** to suit different system requirements.

[Mode]

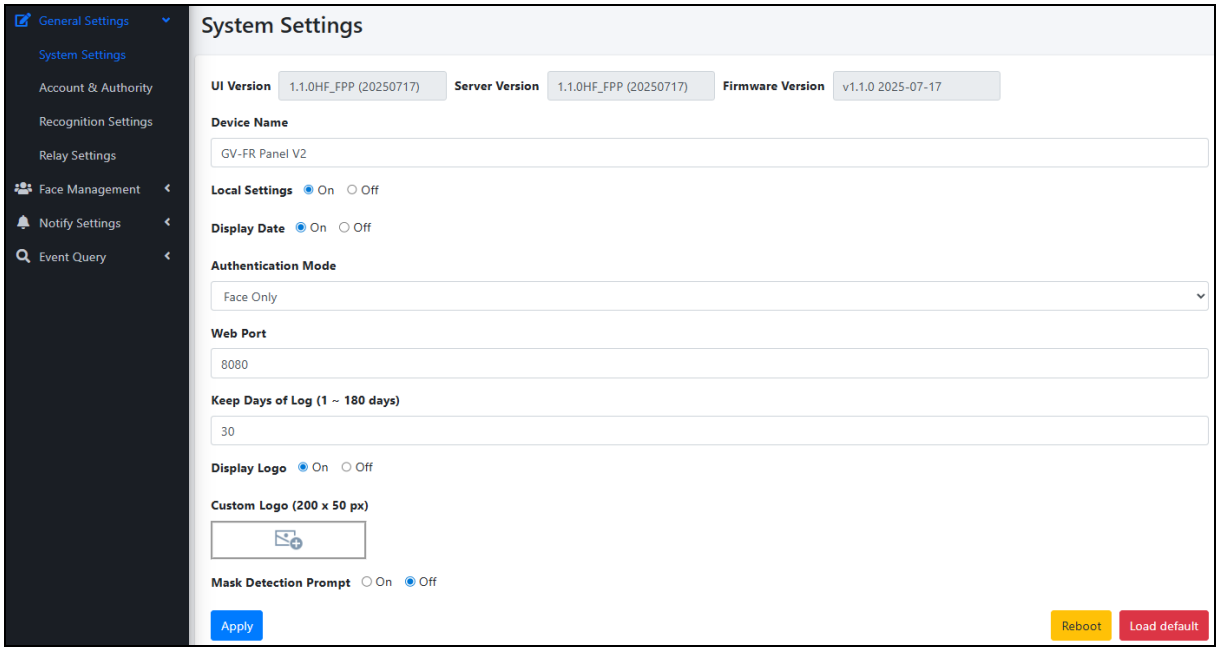
- **GV-ASManager Mode:** The GV-FR Panel V2 integrates with the GV-ASManager access control system. See *Chapter 3 Access Control Integration* and *Chapter 4 User Management in GV-ASManager* to connect to GV-ASManager and create face profiles.
- **Standalone Mode:** The GV-FR Panel V2 operates independently in standalone mode. See *5.3 Face Management* to create face profiles directly on the device.
- **GV-Cloud Mode:** The GV-FR Panel V2 integrates with the GV-Cloud Access Control. See *Chapter 9 GV-Cloud Integration*.

[Controller IP] The IP address of the controller to which the GV-FR Panel V2 is connected. This data is **written back automatically** when the GV-FR Panel V2 is configured in the GV-ASManager system.

[Controller Serial Number] The serial number of the controller to which the GV-FR Panel V2 is connected. This data is **written back automatically** when the GV-FR Panel V2 is configured in the GV-ASManager system.

5.2 General Settings

5.2.1 System Settings

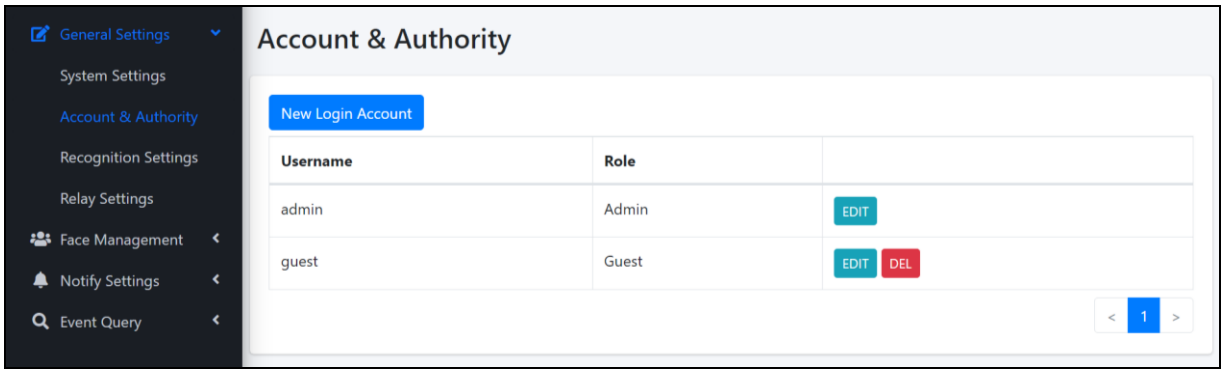


- **Device Name:** Type a desired name for the GV-FR Panel. “GV-FR Panel” and “GV-FR Panel V2” are set as the default names for GV-FR Panel V1 and GV-FR Panel V2 respectively.
- **Local Settings:** Enabled by default. Select **On** to enable the accessibility of the local settings. For details, see *2.3 Local Settings*.
- **Radar Sensor:** Only available for GV-FR Panel V1. Select **Auto** to enable radar sensor for detecting motion and automatically turning on the device’s white LED.
- **QR Code LED:** Only available for GV-FR Panel V1. Enabled by default. Select **Auto** for the QR Code LED to turn on when detecting motion around.
- **Display Date:** Enabled by default. Select **On** for the time and date to be displayed at the upper-right corner of the touchscreen panel.
- **Authentication Mode:** Select to authenticate and grant user access by one of the three modes: *Face Only*, *Card or Face*, *Card and Face*. **Face Only** mode is selected as default.
- **Web Port:** Optionally modify the default web port value of 8080.
- **Keep Days of Log (1 ~ 180 days):** Define the number of days the log data are kept for. The default value is 30.
- **Display Logo:** Enabled by default. Select **On** for the GeoVision logo or custom logo to be displayed on the touchscreen panel.

- **Custom Logo (200 x 50 px)**: Optionally add a desired logo, with a pixel size of 200 x 50, to be displayed at the upper-left corner of the GV-FR Panel, in place of the GeoVision logo.
- **Mask Detection Prompt:** Select **On** to enable the following three options:
  - **Voice Alert for Mask:** Select **On** for the audio clip “Please wear a face mask” to play when a face without a mask is presented.
  - **Display Mask Info:** Select **On** for the notice “Please wear a face mask” to appear when a face without a mask is presented.
  - **Custom Mask Alert Sound:** Optionally add a desired alert sound. Note that only MP3 files within 100 KB are applicable.
- **Reboot:** Only available for GV-FR Panel V2. Restart the device.
- **Load Default:** Loads the default settings of the device.
  - **Restore to factory settings:** Loads the default settings of the device while clearing all data registered.
  - **Restore Default Settings:** Loads the default settings of the device while keeping all data registered (i.e. login and user data).

IMPORTANT: The **Restore to factory settings** option under **Load Default** erases all your registered face profiles and event logs from GV-FR Panel.

5.2.2 Account & Authority



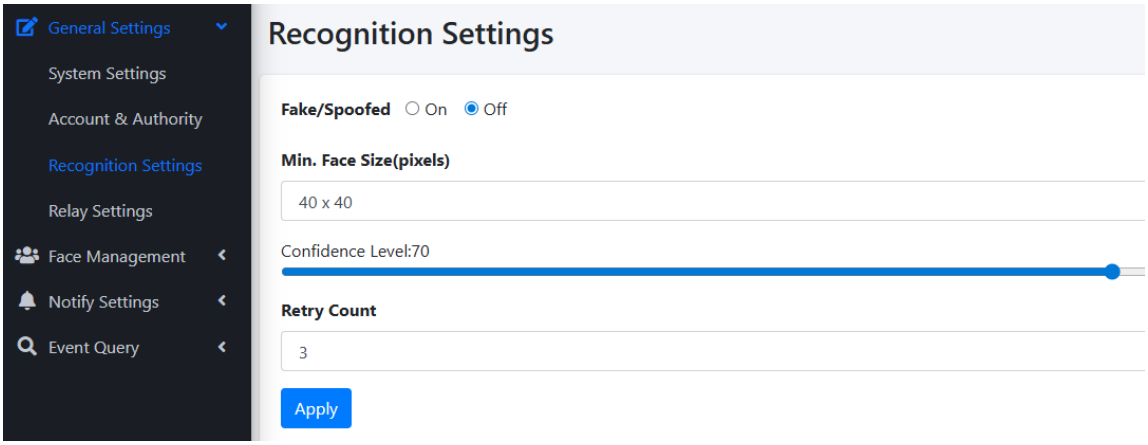
On the **Account & Authority** page, you can create additional Administrator and Guest accounts for accessing the GV-FR Panel.

5.2.3 Recognition Settings

GV-FR Panel V1:



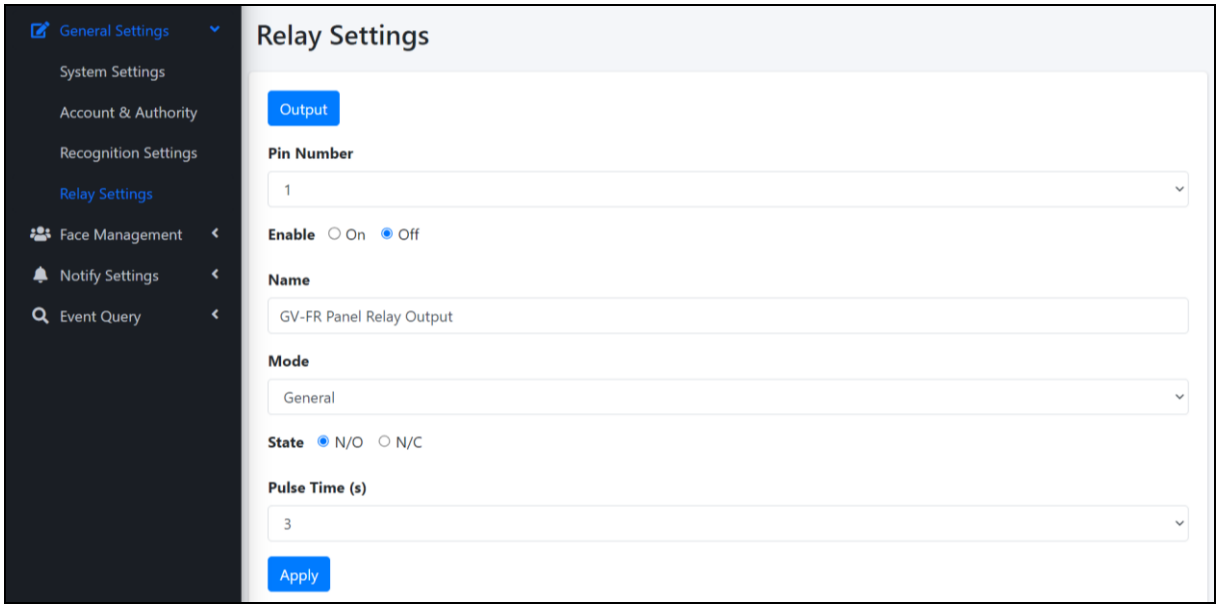
GV-FR Panel V2:



- **Fake / Spoofed:** Select **On** to detect if the face is presented and displayed on a digital device.
- **Min. Face Size:** Select the minimum face size in pixels for face recognition.
  The face sizes are as follows:
  GV-FR Panel V1: *80 x 80* (default), *100 x 100*, *120 x 120*, *140 x 140*, and *160 x 160*.
  GV-FR Panel V2: *40 x 40* (default), *60 x 60*, *80 x 80*, *100 x 100*, *120 x 120*, *140 x 140*, and *160 x 160*.
- **Confidence Level:** Adjusts the confidence level for face recognition. The higher the level, the more definitive and stricter the device is toward distinguishing between similar faces. The default value is *80* for GV-FR Panel V1 and *70* for GV-FR Panel V2.
- **Threshold for Unknown:** Only available for GV-FR Panel V1. Adjusts the threshold for unknown face recognition. Face recognition events below this confidence value are recorded as unknown. The default value is 73.

- **Unknown Interval:** Only available for GV-FR Panel V1. The time interval in seconds before face recognition can be performed again on targets identified as unknown.
- **Retry Count:** Only available for GV-FR Panel V2. The number of times face recognition can be repeated on targets before they are identified as unknown. The retry count ranges from 1 to 5. The default value is 3.

5.2.4 Relay Settings



You can configure an output device to trigger immediately upon the recognition of a registered face. Ensure that an output device is physically connected to the GV-FR Panel to utilize this feature.

Note: When using **GV-Cloud** integration with the GV-FR Panel V2 (see *Chapter 9*), the Relay Settings are not supported.

- **Output:** Force triggers the connected output.
- **Pin Number:** The GV-FR Panel only supports one output pin and device.
- **Enable:** Select **On** to enable the output device.
- **Name:** Type a desired name for the output device. **GV-FR Panel IO Output** and **GV-FR Panel Relay Output** are set as the default names for GV-FR Panel V1 and GV-FR Panel V2 respectively.
- **Mode:** Select an output trigger mode from the following options:
  - **General:** Triggers the output only once. Selected as default.
  - **Toggle:** Always triggers the output.
  - **Pulse:** Triggers the output for the time specified under *Pulse Time (s)*.
- **State:** Defines its non-triggered state as normally open or normally closed. **N/O** (normally open) is selected as default.
- **Pulse Time (s):** Specify the duration in seconds that the output remains active the **Pulse** mode is selected. The default value is 3.

To trigger the configured output device upon face / card recognition events, select **Notify Settings** > **Event Trigger** > **New Trigger** and select **Relay Output** under Trigger Output. See *5.4.2 Event Trigger*.

5.2.5 Tailgating Detection

When the **GV-FR Panel V2** is integrated with the **GV-GEBF4911 camera**, users can enable tailgating detection for designated entry areas. If multiple individuals are detected during a single access attempt, the GV-FR Panel V2 will deny entry to prevent unauthorized access.

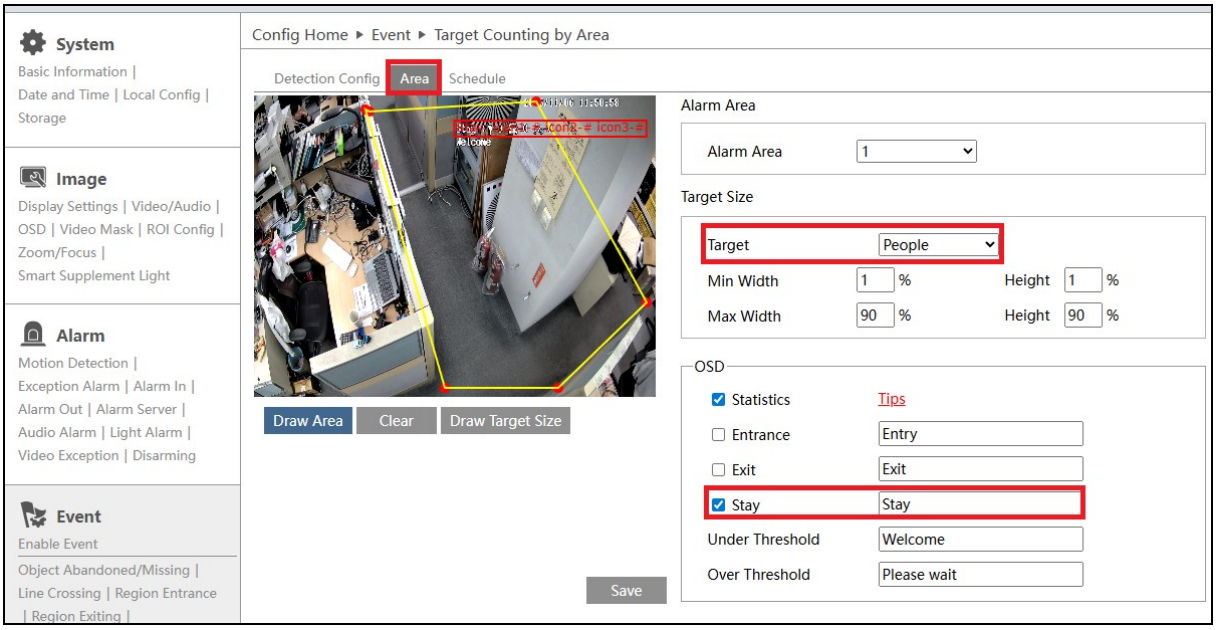
Integration Requirements

- **GV-FR Panel V2** with firmware V1.20 or later
- **GV-GEBF4911 camera** with firmware V1.03 or later
- **Standalone Mode, GV-ASManager software** or **GV-Cloud Access Control platform**

To enable the tailgating detection, follow the steps below:

GV-GEBF4911 Camera Configuration

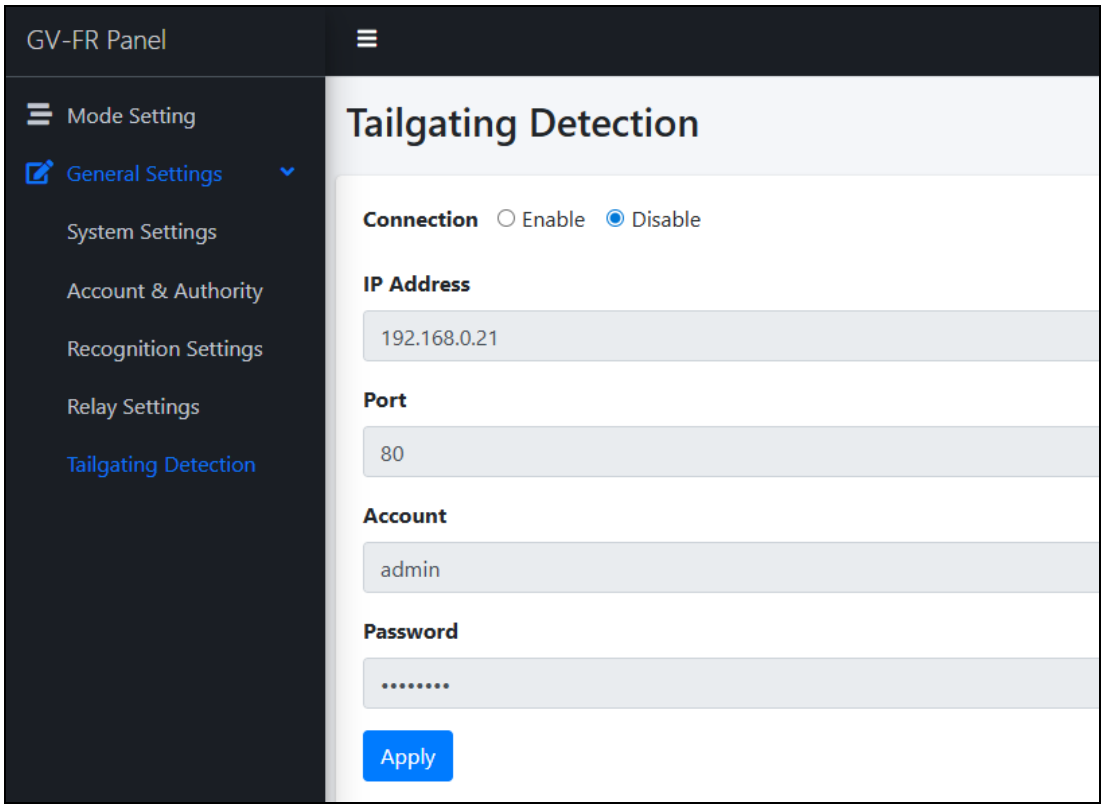
1. Access the camera's Web interface, go to **Configure** > **Event** > **Target Counting by Area**, and select the **Area** tab.
2. On the setup page, configure the following:
   A. Draw a detection area on the camera image.
   B. Set **Target** to **People**.
   C. Enable **Statistics** and **Stay**.
3. Click **Save**.



For advanced camera settings, see its user's manual.

GV-FR Panel V2 Configuration

4. On the Web interface of the GV-FR Panel, go to **General Settings** > **Tailgating Detection**.
5. Enable the tailgating settings, type the GV-GEBF4911's IP address and Web port (default: 80), and enter the camera's login username and password.
6. Click **Apply.**



GV-FR Panel V2 Responses

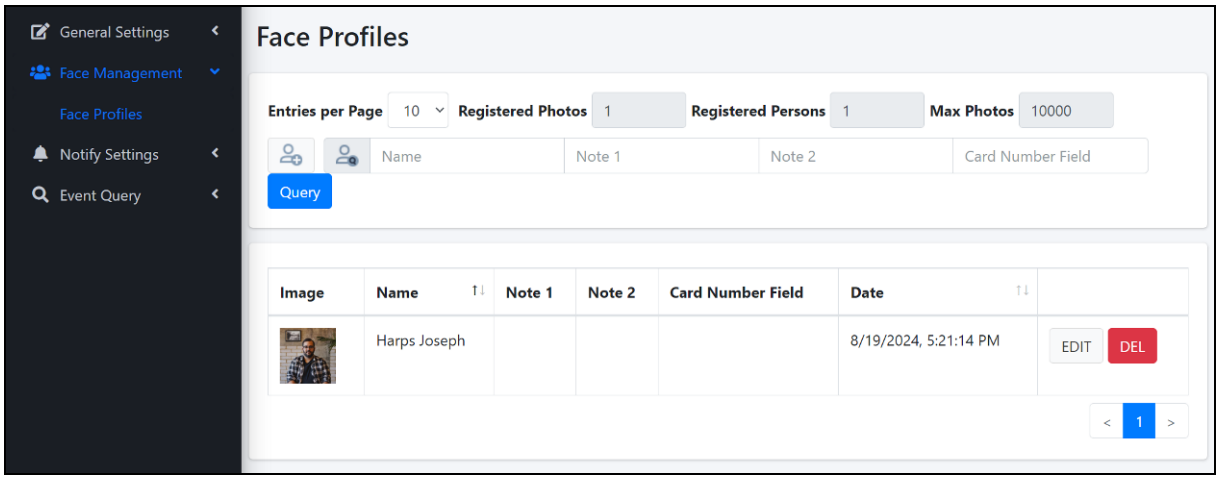
When the Tailgating Detection is enabled, the GV-FR Panel V2 monitors the designated area and responds as follows:

- **Multiple individuals detected:** The panel displays: **"Tailgating Detected"**, and access is denied.
- **Single individual detected:** Access is granted **only when occupancy is reduced to one person**.
- **No individual detected:** The panel display **"Detect Failed"**, and access is denied.

Note: Tailgating detection is not recorded as a tailgating or area occupancy event in **GV-ASManager**. To view these events, look for the "Tailgating Detected" entry in the GV-FR Panel V2 event log.

5.3 Face Management

5.3.1 Face Profiles



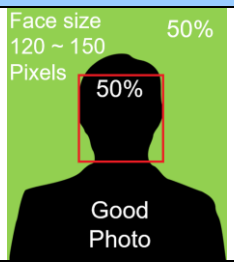
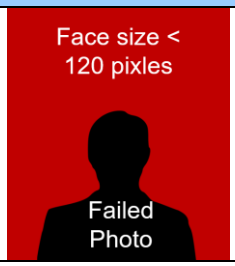
On the **Face Profiles** page, you can enroll face images used for access control by the GV-FR Panel. You can also search for previously created face profiles by applying the desired search criteria and clicking **Query**.

- **New Face** : Create face profiles. See the instructions provided later in this section.
- **Entries per Page:** Select the number of entries shown per page, including 10 and 20. The default value is 10.
- **Query:**
  - **Search Criteria:** Type *Name*, *Note 1*, *Note 2* or *Card Number Field* in their respective fields. The search results are displayed based on the criteria set.

Preparing a Face Image

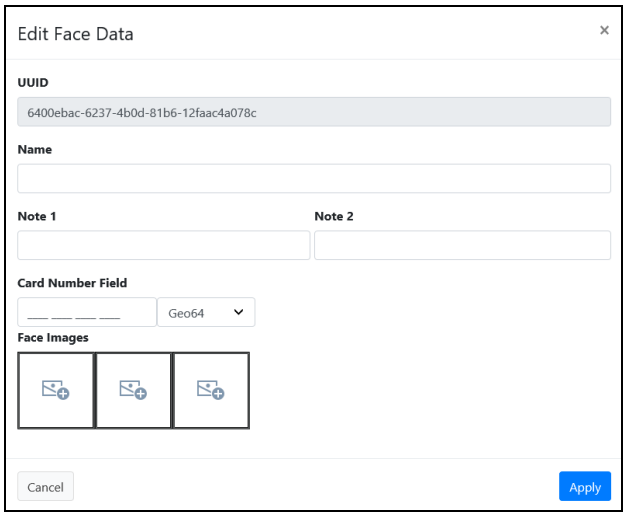
Before creating a face profile, ensure the image meets the following face enrollment requirements:

- Each image must contain only one face.
- The face size within the image should be 120 ~ 150 pixels.
- The image size should not exceed 50 KB.
- Only JPEG format is supported.
- The face should not occupy more than 50% of the image area.

Ideal	Failed to enroll – 1	Failed to enroll – 2
		
The face occupies 50% of the image. The face size is between 120 ~150 pixels.	The face occupies more than 50% of the image.	The face size is less than 120 pixels.

Creating a Face Profile

1. Click **New Face** . This window appears.



2. Type a desired name for the face profile under **Name**.
3. Optionally type notes for the face profile under **Note 1** and **Note 2**.

4. Type the number of the access card to be assigned to the face profile under **Card Number Field**. Select the corresponding card format from the dropdown list, including *Wiegand26*, *HID32*, *Geo34*, *HID35*, *HID37*, *HID40*, and *Geo64*. **Geo64** is selected as default.
5. Click the icon under **Face Images** to browse for and add up to 3 images for the face profile.
6. Click **Apply**. The face profile is created.

IMPORTANT: When you delete a created face profile, its related event logs will also be erased.

Note: For GV-FR Panel V1 and V2 (firmware V1.10 and earlier) without a dedicated Standalone mode: We recommend syncing face profiles created on the device directly with GV-ASManager.

1. To maintain consistent user data between GV-FR Panel and GV-ASManager, you need to create user accounts and enroll face images in GV-ASManager, and then sync the data back to GV-FR Panel. See *Chapter 3 Access Control Integration and Chapter 4 User Management in GV-ASManager*.
2. You can also use **GV-Face Manager** utility to create face profiles. See *6.3 GV-Face Manager for Face Database Management*.

5.4 Notify Settings

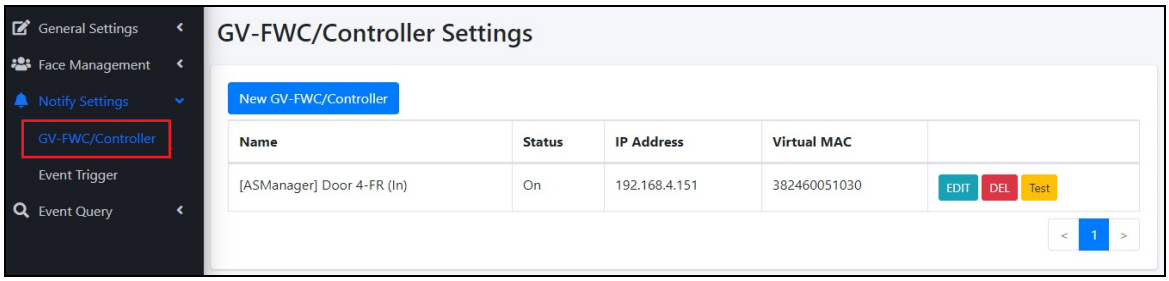
5.4.1 GV-FWC/Controller

The **GV-FWC/Controller** page allows users to check the connection information of the connected GV-AS Controller, or add a GV-FWC for third-party integration. To add a GV-FWC, see details in *7.2 Via GV-FWC Converter*.

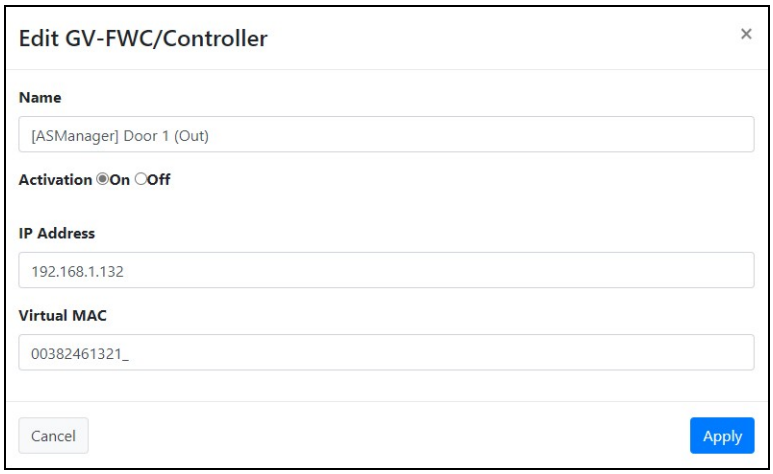
Note: The GV-FWC/Controller Settings page is **not supported** by GV-FR Panel V2 with firmware V1.20 or later.

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1. To configure a GV-FWC/Controller, follow the steps below. On the Web interface of GV-FR Panel, select **Notify Settings** > **GV-FWC/Controller**.



2. Click **EDIT**, which is next to the GV-FWC/Controller entry, to change the device name and IP address, and enable/disable connection.



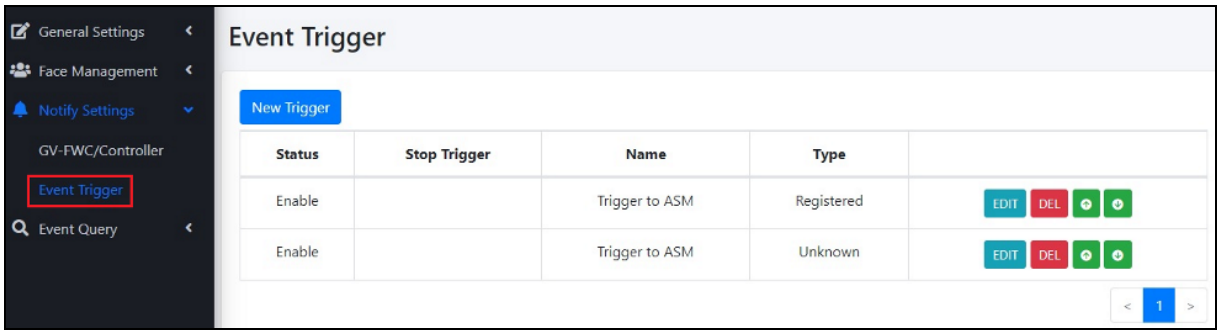
Note: The Web interface displays “Virtual MAC” for GV-FR Panel V1 and “Serial Number” for GV-FR Panel V2.

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3. Click **Apply**.

5.4.2 Event Trigger

The **Event Trigger** page allows users to set up various trigger actions upon face / card recognition events.

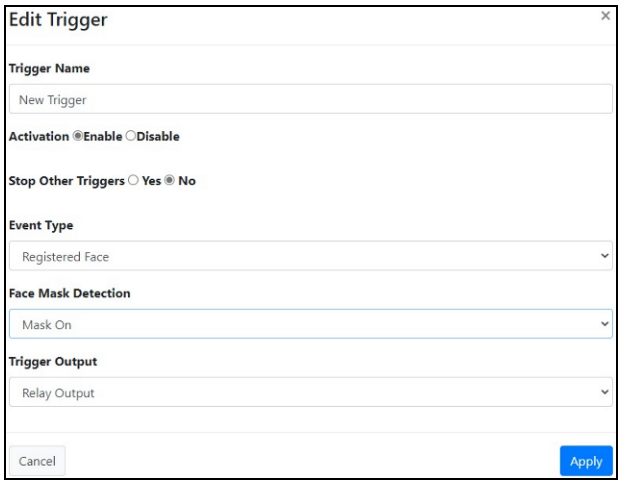


Note: When the GV-ASManager software is integrated, two "Trigger to ASM" entries will be automatically created on the Event Trigger page (see the example above). The GV-ASManager will receive access data regardless of whether faces or cards are registered or unknown. See *Appendix 2 Access Method Scenarios for FR Panel V2* for a detailed breakdown of GV-FR Panel V2 and GV-ASManager actions in various face and card presentation scenarios.

To set up or configure a trigger action, follow the steps below.

1. On the Web interface of GV-FR Panel, select **Notify Settings** > **Event Trigger**.

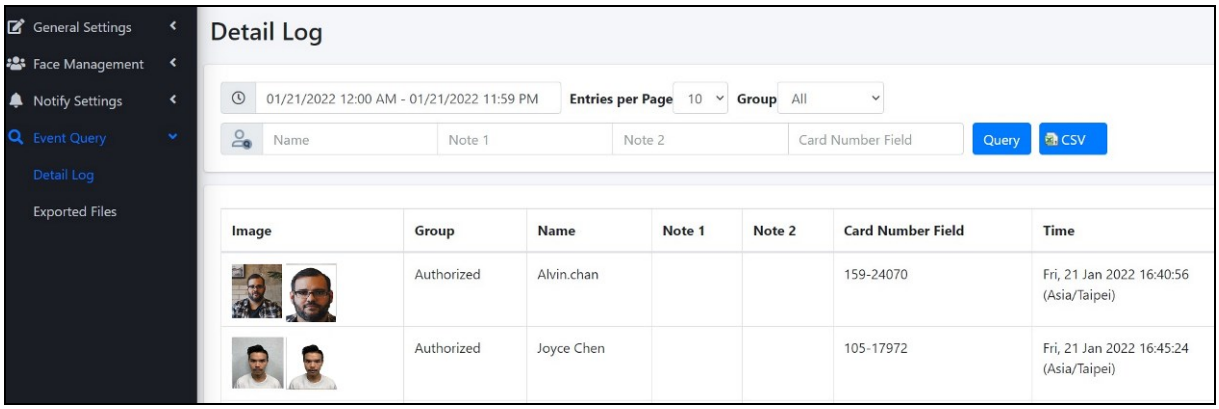
2. To set up a new trigger action, click **New Trigger**. To configure a trigger action, click **EDIT**. This page appears.



3. Name the trigger under **Trigger Name**.
4. Select **Enable** next to **Activation**.
5. Select **Yes** for **Stop Other Triggers** to stop other previously created triggers from being triggered at the same time.
6. Under **Event Type**, select an event to activate a trigger action.
   - **Unknown Face:** Triggers an action when unknown faces / cards are detected.
   - **Registered Face:** Triggers an action when registered faces / cards from the database are recognized. Selected as default.
7. Under **Face Mask Detection**, select whether wearing a face mask or not will also trigger an action.
8. Under **Trigger Output**, select a trigger action.
   - **None:** No action is triggered.
   - **GV-FWC/Controller:** When the trigger conditions are met, the captured facial image and card number are transmitted to the access control software GV-ASManager via GV-Controller.
   - **GV-Face App:** When the trigger conditions are met, the captured facial image and card number are transmitted to the GV-Face mobile app.
   - **Relay Output:** When the trigger conditions are met, the connected output device, e.g. an alarm, is activated. Selected as default. To set up an output device, see *5.2.4 Relay Settings*.
   - **Wiegand Output:** When the trigger conditions are met, the card number is transmitted to a third-party access control system. See *Chapter 7 Third-Party Controller Integration*.
9. Click **Apply**.

5.5 Event Query

5.5.1 Detail Log



The **Event Query** allows users to search for events during a specified time. When accessing **Detail Log**, apply the desired search criteria and click **Query**.

- **Entries per Page:** Select the number of entries shown per page, including 10, 20, 30, 40, and 50. The default value is 10.
- **Query:**
  - **Time:** Set a start time and end time to filter for events that occur within this time range.
  - **Group:** Select a group to filter for a specific group of people, including *All*, *Unknown,* and *Authorized*. **All** is selected as default.
  - **Other Search Criteria:** Type *Name*, *Note 1*, *Note 2* or *Card Number Field* in their respective fields.

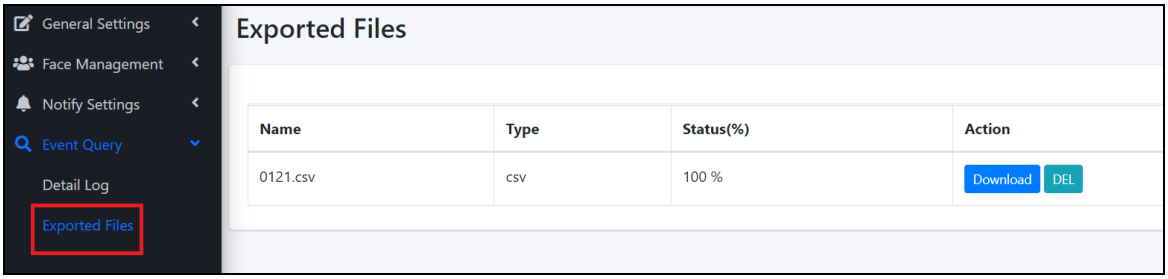
The search results are displayed based on the criteria set, with the data explained below.

- **Image (Live/Enrolled):** Displays the face snapshot captured upon face / card recognition, along with the face image already enrolled for the Face Profile recognized.
- **Group / Name / Note 1 / Note 2 / Card Number Field:** Displays the group, name, note 1, note 2 and the card number of the Face Profile recognized.
- **Time:** Displays the time of the recognition event.

5.5.2 Exported Files

On the **Exported Files** page, users can export the event logs found in the Detail Log page. To do so, follow the steps below.

1. Click the **CSV** button at the upper right of the Detail Log page, which appears after each query.
2. Click **Event Query** > **Exported Files.**



3. Click **Download**.

Chapter 6 Advanced Applications

This chapter introduces more advanced applications.

6.1 Upgrading System Firmware

GeoVision periodically updates the latest firmware to the company website. You can update GV-FR Panel's firmware through **GV-IP Device Utility** (V8.9.3 or later) from the website.

Important Notes Before You Start

Before you start updating the firmware, read these important notes:

1. While the firmware is being updated, the power supply must not be interrupted.
2. If you use GV-IP Device Utility for firmware upgrade, the computer used to upgrade firmware must be within the same network as the GV-FR Panel.
3. If firmware upgrade fails, you will need to restore the GV-FR Panel to its default settings. For details, see *6.2 Restoring to Factory Default Settings*.

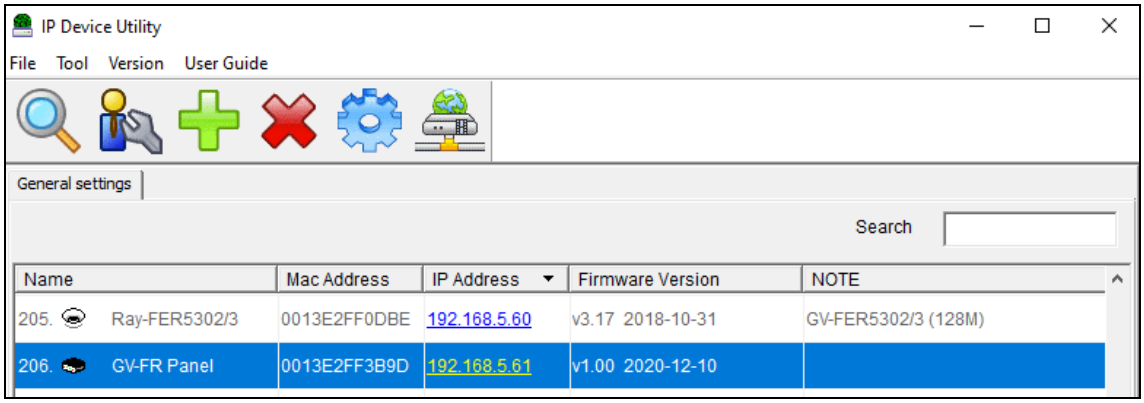
WARNING: The interruption of power supply during updating causes not only update failures but also damages to your GV-FR Panel. In this case, contact your sales representative and send your device back to GeoVision for repair.

Using GV-IP Device Utility

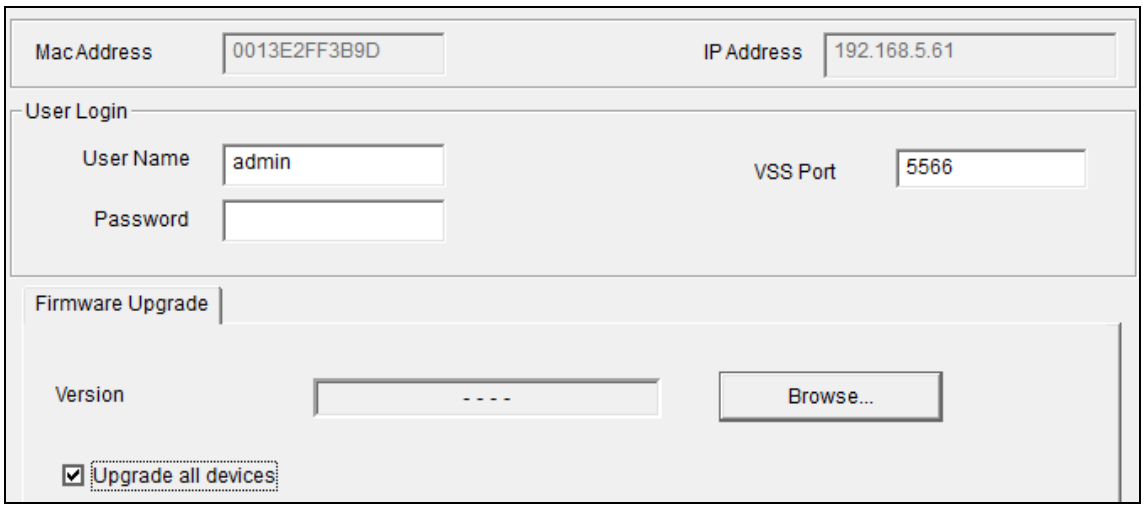
GV-IP Device Utility provides a direct way to upgrade the firmware to multiple GV-FR Panels.

Note: The computer used to upgrade firmware must be within the same network as the GV-FR Panel.

1. Once downloaded, select **GV IP Device Utility**, and follow the onscreen instructions to install the utility.
2. Double-click the **GV IP Device Utility** icon created on your desktop. This dialog box appears.



3. Click the **Search** button to locate available devices on the LAN, or click the **New** button and assign an IP address to locate a GV-FR Panel on the network.
4. Double-click on the IP address of the GV-FR Panel. This dialog box appears.



5. Click the **Browse** button to locate the firmware files (.img) saved at your local computer.
6. If you would like to upgrade all the GV-FR Panels in the list, check **Upgrade all devices**.
7. Type the **Password** of the GV-FR Panel, and click **Upgrade** to start the upgrade.

6.2 Restoring to Factory Default Settings

If for any reason the device is not responding properly, you can restore it to its factory default settings through the Web interface.

1. Click **General Settings** > **System Settings**.
2. Click **Load Default**.

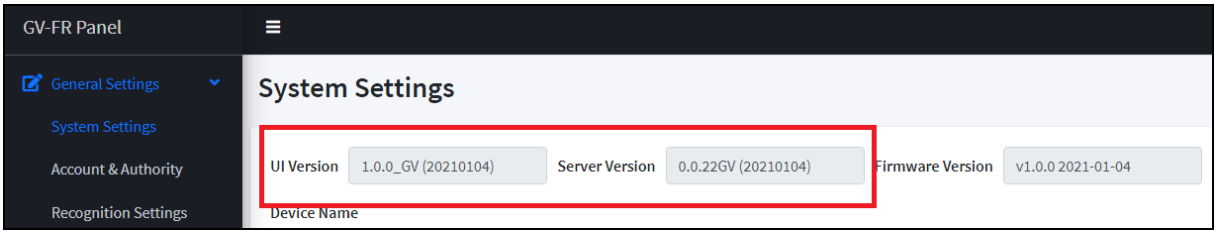
6.3 GV-Face Manager for Face Database Management

GV-Face Manager is a useful utility, allowing you to manage the face database of GV-FR Panel. It features the following functions for GV-FR Panel:

- **Creating face profiles:** See *2.2 Adding / Editing Face IDs* in *GV-Face Manager User's Guide*.
- **Synchronizing face databases among more than one GV-FR Panel:** See *2.5 Synchronizing Databases* in *GV-Face Manager User's Guide*.
- **Importing and exporting a face database:** See *3.3 Face Database Backup* in *GV-Face Manager User's Guide*.
- **Batch enrolling faces:** See *2.4 Batch Enrolling Faces and Access Cards* in *GV-Face Manager User's Guide*.

WARNING: Synchronizing and **importing** face database can work only among the devices with the same engine versions (UI and Server versions). When applied the face database with a different engine version, GV-FR Panel will not recognize the faces registered.

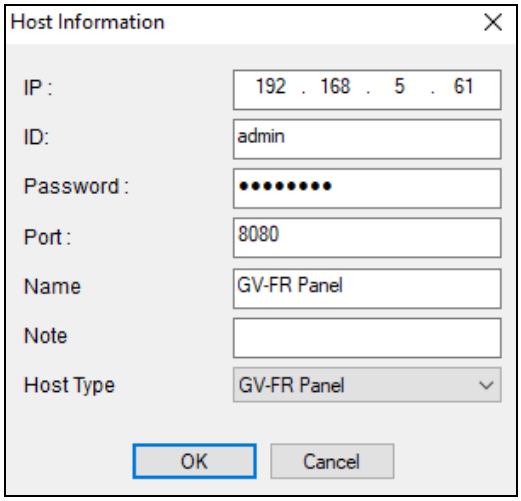
You can verify the engine versions from the Web interface of GV-FR Panel.



Starting GV-Face Manager

You can download GV-Face Manager from the GeoVision's website.

1. Once downloaded and installed, double-click the **Face Manager** to start.
2. Upon first startup, you are required to set a login ID and password for the Face Manager.
3. After logging in, click **Add Host** and type the IP address, Port, the login ID and Password, and type a desired Host Name for the GV-FR Panel, and click **OK**.



Once the GV-FR Panel is added and connected, you can use the Face Manager to create face profiles, synchronize and back up face databases. For details, see the related sections in *GV-Face Manager User's Guide*.

Chapter 7 Third-Party Controller Integration

GV-FR Panel can transmit access data and integrate with third-party access control systems via a **Wiegand** connection. Two connection methods are available:

1. Through the built-in Wiegand interface
2. Using the optional GV-FWC face recognition access data converter

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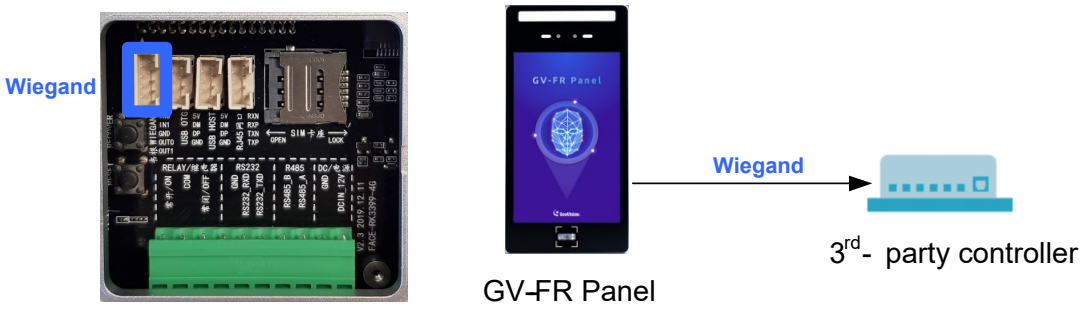
Note: The Wiegand connection only transmits access data (card numbers and logs) and does not support facial image transfer to third-party controllers.

7.1 Via the Wiegand Interface

Use the Wiegand interface on GV-FR Panel, as indicated below, to connect it to a 3rd-party controller.

Note: The direct connection via the Wigegand interface of GV-FR Panel is only supported by GV-FR Panel V1 and GV-FR Panel V2 (with firmware V1.10 and earlier).

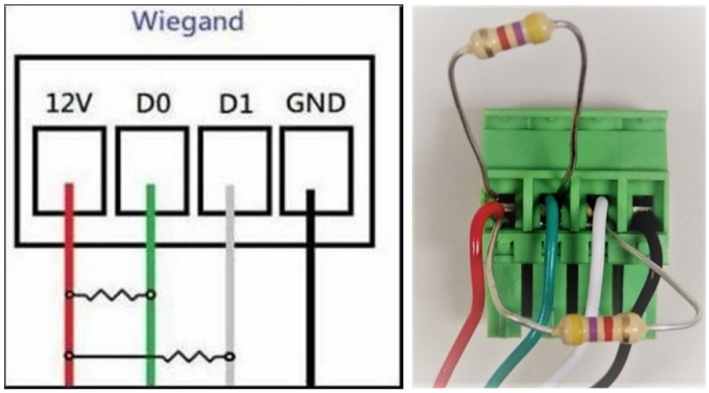
GV-FR Panel V1:



GV-FR Panel V2:

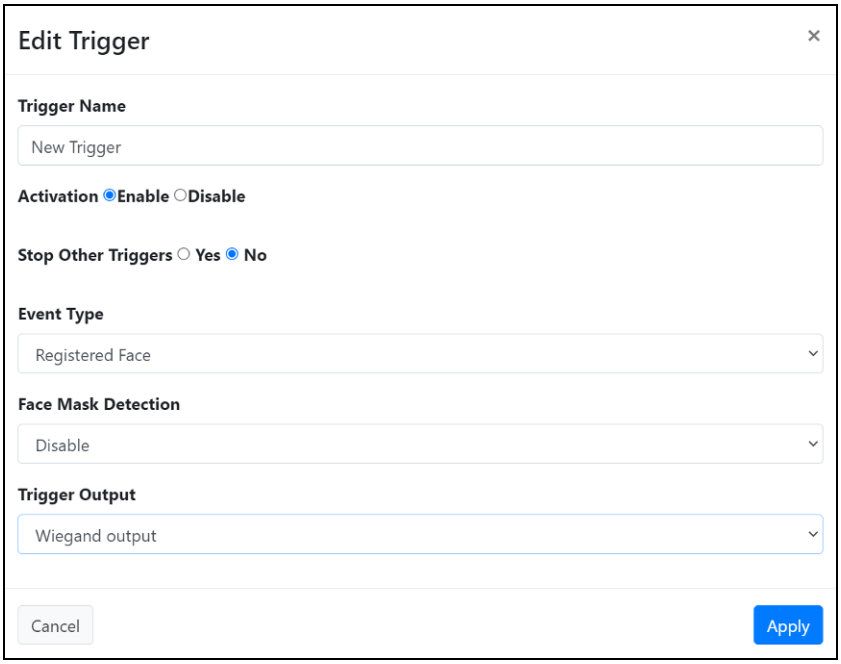


Note: If the third-party controller fails to respond to GV-FR Panel connected via its Wiegand interface, i.e, the access information received by GV-FR Panel is not transmitted to the third-party controller, prepare two resistors of 3.3 or 4.7 kΩ, and apply them to the Wiegand interface. One is between D0 and 12 V, and the other between D1 and 12 V, as illustrated below.



Connection Settings on GV-FR Panel

On the Web interface of GV-FR Panel, select **Notify Settings** > **Event Trigger** > **New Trigger**, and select **Wiegand Output** under Trigger Output. When recognition events occur, card numbers will be transmitted to the connected controller via the Wiegand port.

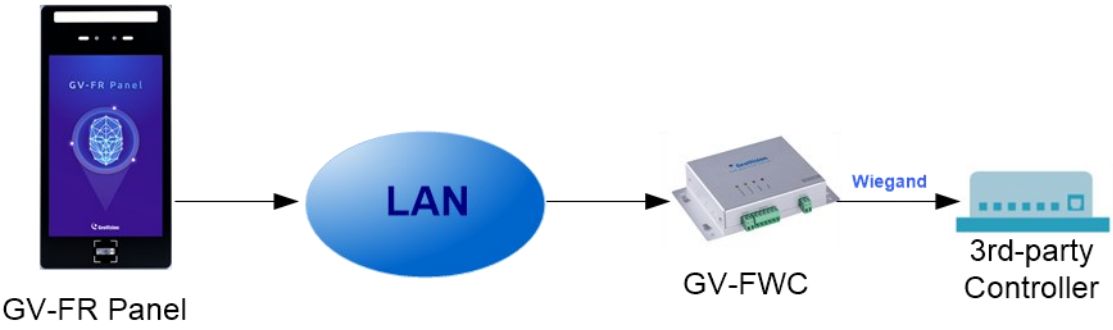


For details on the Event Trigger settings, see *5.4.2 Event Trigger*.

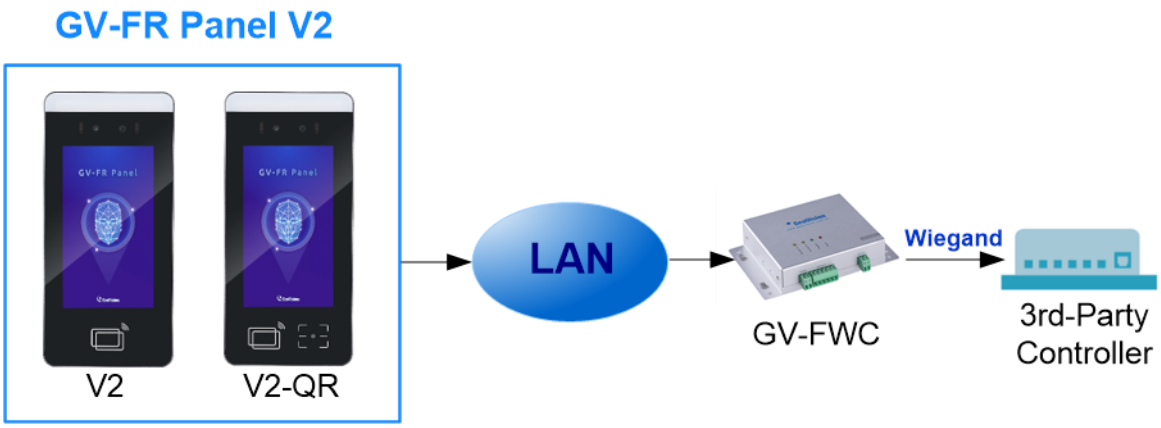
7.2 Via the GV-FWC Converter

Through GV-FWC, a face recognition access data converter, GV-FR Panel can send access data to and integrate with third-party access systems.

GV-FR Panel V1:



GV-FR Panel V2:



Note: The Wiegand connection only transmits access data (card numbers and logs) and does not support facial image transfer to third-party controllers.

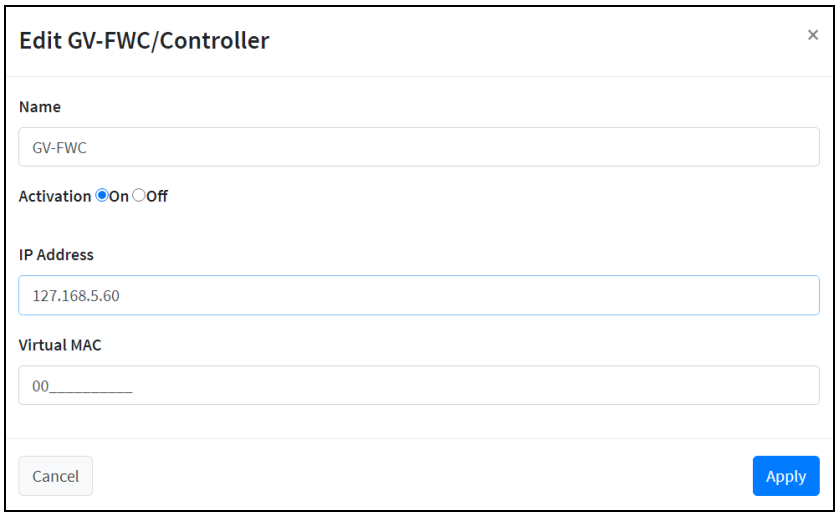
7.2.1 FR Panel V1 and FR Panel V2 (Firmware V1.10 and earlier)

To connect GV-FR Panel V1 and GV-FR Panel V2 (with firmware V1.10 and earlier) to a GV-FWC converter for third-party controller integration, follow the steps below.

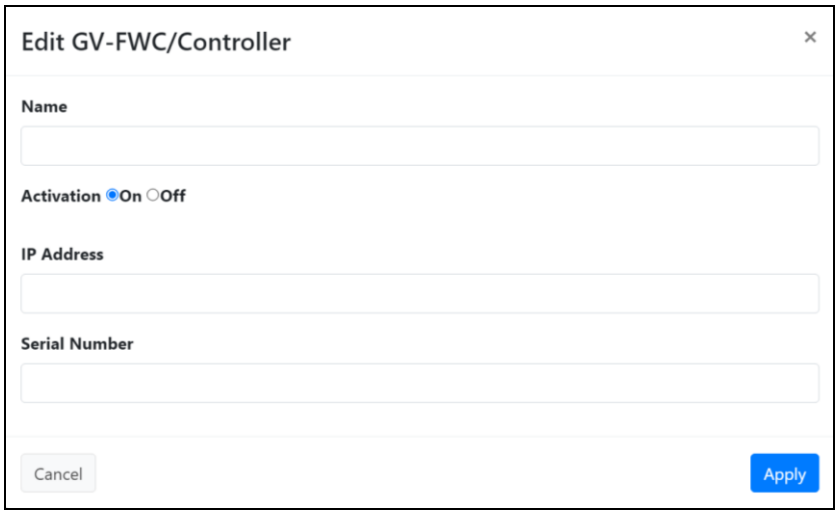
Connection Settings on GV-FR Panel

1. On the Web interface of GV-FR Panel, click **Notify Settings** > **GV-FWC/Controller**, and select **New GV-FWC/Controller**. This page appears.

GV-FR Panel V1:



GV-FR Panel V2:

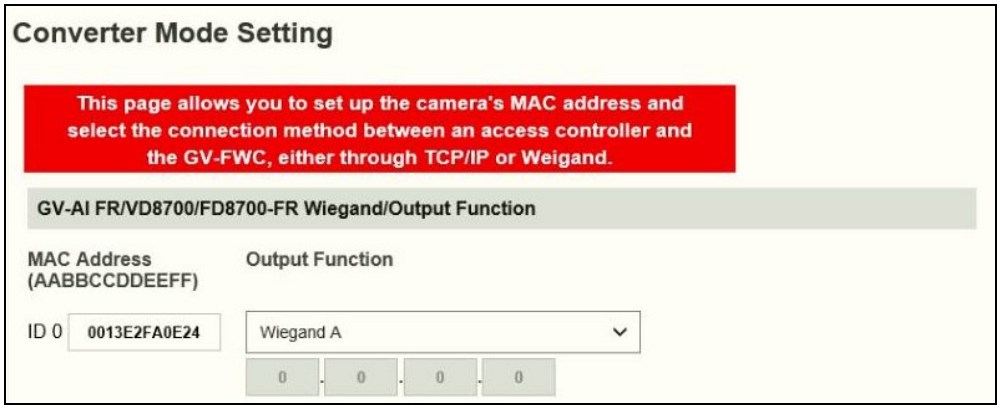


2. Name the GV-FWC to be connected, type its IP address, and select **On** for **Activation** to enable connection.

3. Type the MAC address or serial number:
   - For GV-FR Panel V1, type the **Virtual MAC**.
   - For GV-FR Panel V2, type a **self-created 12-digit Serial Number** (numeric digits 0-9).
4. Click **Apply**. The GV-FWC/Controller entry is created.

Connection settings on GV-FWC

5. On the Web interface of GV-FWC, click **Converter Mode Setting**. This page appears.



6. Under **MAC Address**,
   - For GV-FR Panel V1, type the **MAC address**.
   - For GV-FR Panel V2, type the **self-created 12-digit Serial Number**.

   The MAC address and 12-digit value must match that created in Step 3.
7. Under **Output Function**, select **Wiegand A** or **Wiegand B** to which the 3rd-party controller is connected.
8. Optionally modify the default HTPP Event Port of **8080** if needed.
9. Click **Submit** to apply the settings.

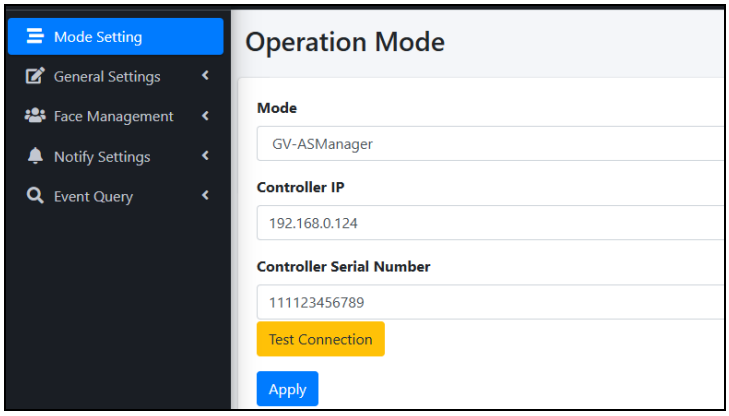
For more details on GV-FWC, see *GV-FWC Installation Guide*.

7.2.2 FR Panel V2 (Firmware V1.20 or later)

The GV-FR Panel V2 (with firmware V1.20 or later) does not include the GV-FWC/Controller setting page. To connect a GV-FWC converter for third-party controller integration, follow the steps below.

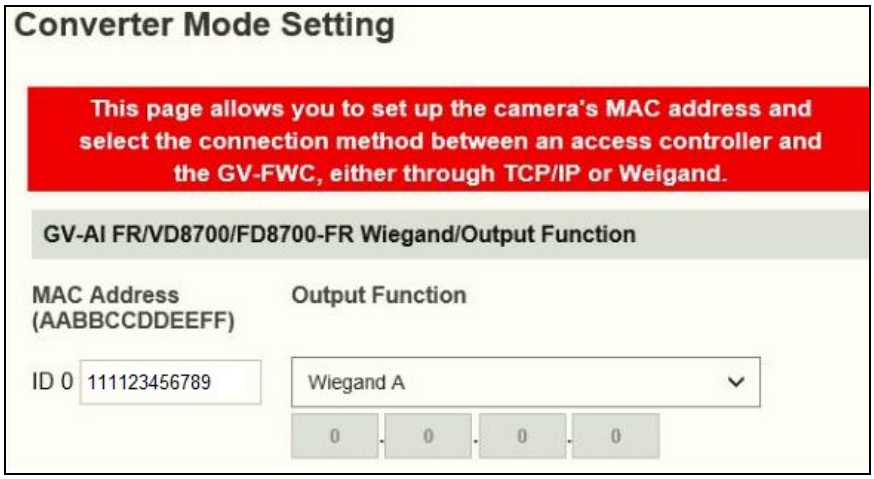
Connection Settings on GV-FR Panel

1. On the Web interface of GV-FR Panel, go to **Mode Setting**.
   - **Mode:** Select **GV-ASManager**.
   - **Controller:** Type the GV-FWC's IP address.
   - **Controller Serial Number:** Type a **self-created 12-digit value** (numeric digits 0-9).



Connection Settings on GV-FWC

2. On the Web interface of GV-FWC, go to **Converter Mode Setting**.
   - **MAC Address**: Type the **self-created 12-digit value** created in Step 1.
   - **Output Function:** Select **Wiegand A** or **Wiegand B** to which the 3rd-party controller is connected.



3. Optionally modify the default HTPP Event Port of **8080** if needed.
4. Click **Submit** to apply the settings.

For more details on GV-FWC, see *GV-FWC Installation Guide*.

Chapter 8 Live Streaming to GV-Software

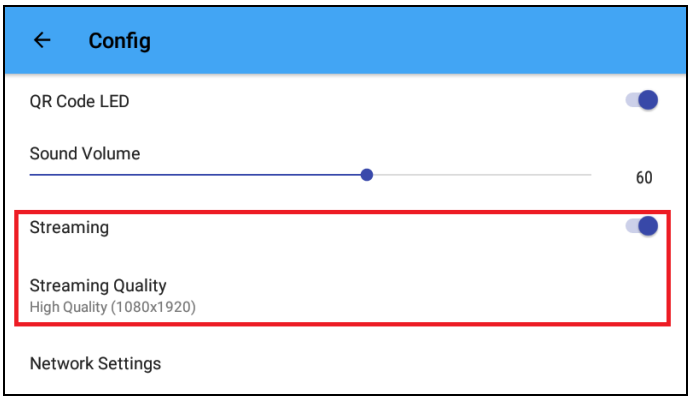
Connecting GV-FR Panel to **GV-VMS** or **GV-Edge Recording Manager** enables live stream viewing across both software platforms. This integration helps create a more comprehensive surveillance management environment.

Integration Specifications

- **Compatible versions:** GV-VMS V20.1 or later, GV-Edge Recording Manager V2.2.0 or later (for Panel V1) / GV-Edge Recording Manager V2.3.0 or later (for Panel V2)
- Live streaming is temporarily disabled during local panel configuration.
- Talk Back is unavailable through software connections.
- Only single stream is supported (1080 x 1920, 480 x 720, or 480 x 640).

To enable live streaming:

1. Enable **Streaming** on the panel's local settings to allow the connection to GV-VMS. Optionally tap **Streaming Quality** to adjust the video resolution.



2. To add GV-FR Panel to the software:
   - For GV-VMS, see *Chapter 2 IP Camera Setup* in *GV-VMS User's Manual* for details.
   - For GV-Edge Recording Manager, select **Add Host** > **Add IP Camera**. For details, see *2.3.2 Manually Adding a Host* in *GV-Edge Recording Manager User's Manual*.

Once the connection is established, the live view from GV-FR Panel will appear within the software interface.

3. To restore the original aspect ratio of GV-FR Panel images:
   - On the view window of GV-VMS, click **Tools** > **Properties** > **Keep Image Ratio**.
   - On the view window of GV-Edge Recording Manager, click **Configure** > **Properties** > **Keep Image Ratio**.

Chapter 9 Cloud Integration

The integration allows GV-Cloud Access Control to monitor access activities and receive snapshots from GV-FR Panel V2.

Integration Specifications

- **Compatible Device:** GV-FR Panel V2
- **Supported Features:** Access activity monitoring and snapshot retrieval
- **Live View / Playback:** Supports only on GV-Cloud VMS via GV-Cloud Bridge Pro.
- **Capacity:** Supports up to 100,000 total access keys (including face images and cards), with a maximum of 10,000 face images supported.

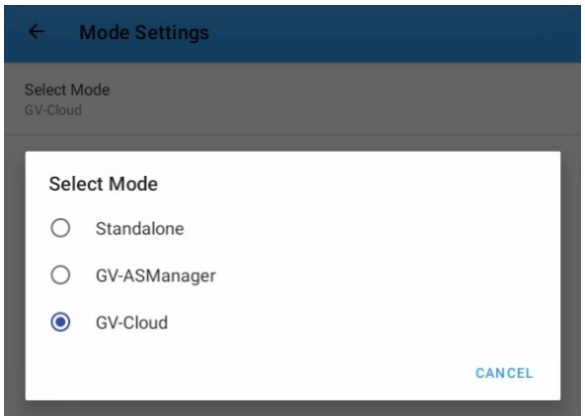
9.1 Enabling the Cloud Mode

Cloud Mode must be enabled directly on the GV-FR Panel V2 for the initial setup. After it has been enabled, you can access and manage Cloud Mode settings through the panel's Web interface.

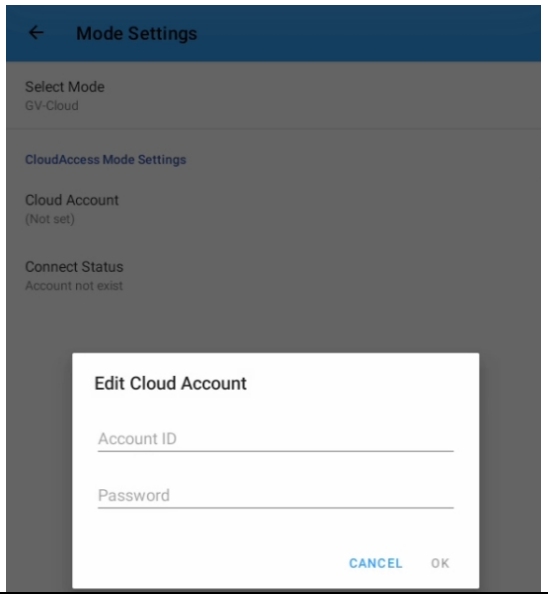
In the Local Settings

1. In local settings, tap **Mode Settings** to enter the configuration menu.

2. Tap **Select Mode** and select **GV-Cloud.**



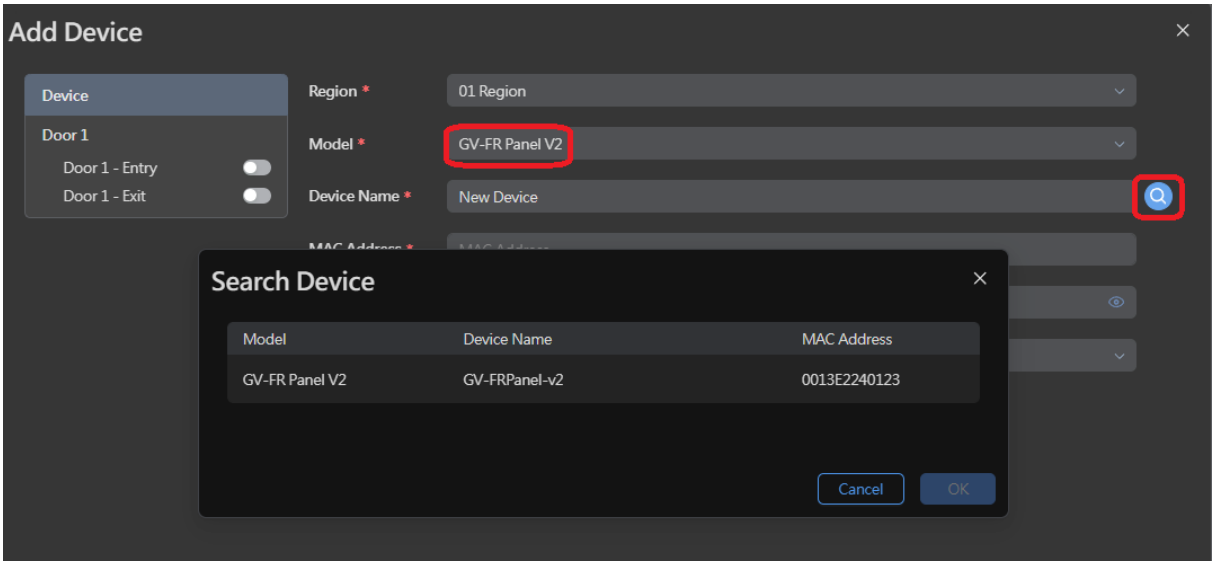
3. Tap **Cloud Account** Enter your GV-Cloud account ID and click **OK**.



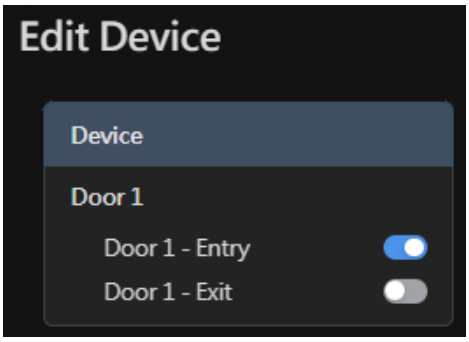
At the stage, the connection between the GV-FR Panel V2 and GV-Cloud is not yet established yet. Follow the steps below to complete the connection.

On the GV-Cloud Access Control

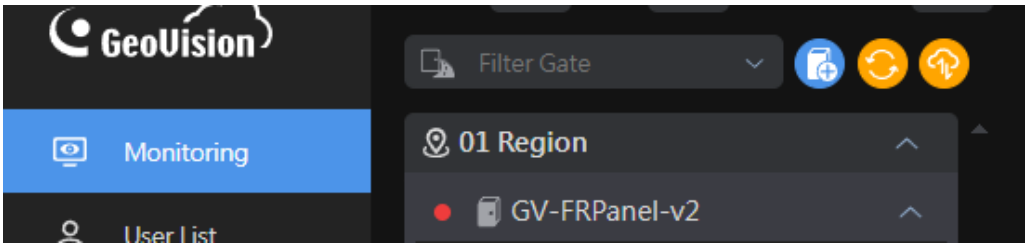
4. On the Monitoring page, click the **Add Device** button. The Add Device dialog box appears.
5. Select **GV-FR Panel V2** for Model, and click the **Search** button. The search results are displayed.



6. Select the device on the Search Device dialog box, and click **OK**.
7. Enter the device's login **Password**.
8. Enable the device's door in the left pane of the Edit Device dialog box.



9. Click **Save**. The device is shown in the Device List with a red icon, indicating it is unlicensed.



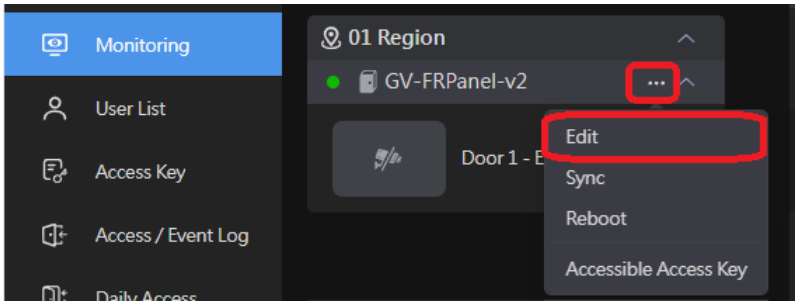
10. Enable the license for the GV-FR Panel V2. The icon will turn green, confirming the connection is active.

Note: To license the device, click the **Account** icon > **Account Settings** > **Subscription** . For details, see Steps 3 to 5, *2.2 Adding Licenses* in *GV-Cloud Access Control User's Manual.*

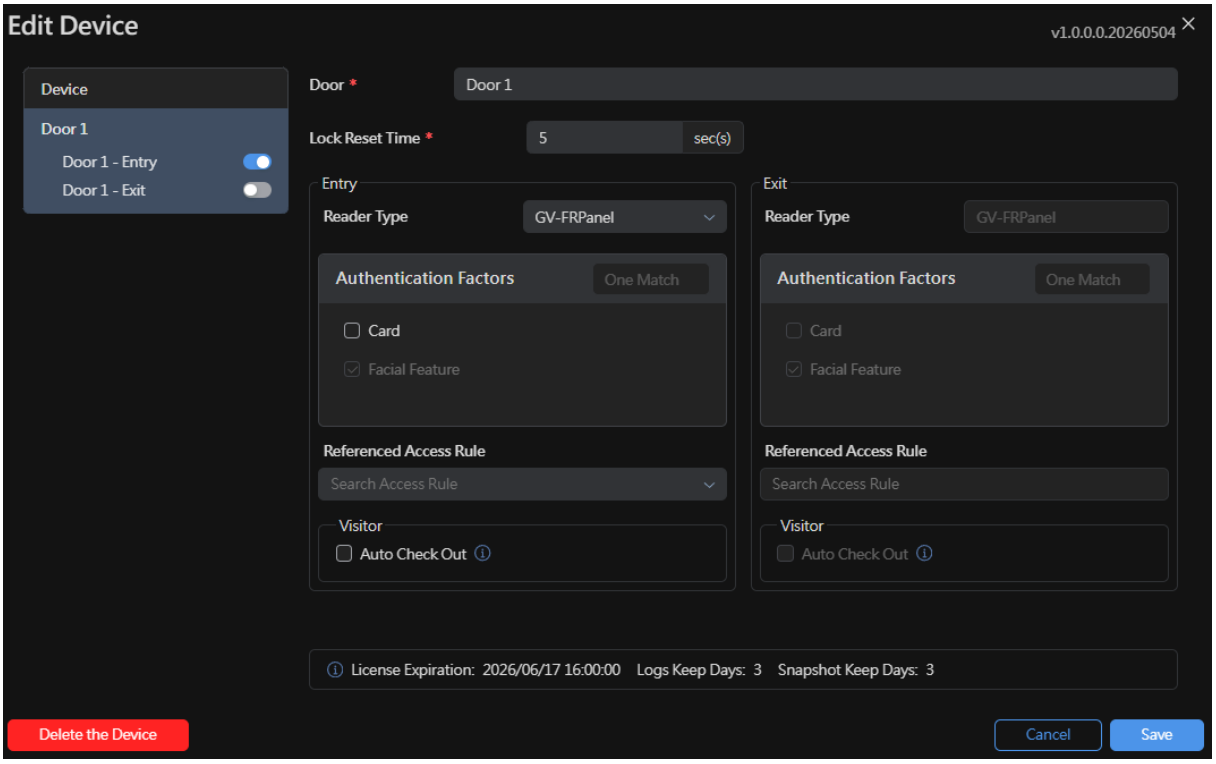
9.2 Configuring GV-FR Panel as a Door

Once the GV-FR Panel is successfully connected and licensed on GV-Cloud Access Control, you can configure the door settings by following the steps below.

1. In the Device List of GV-Cloud Access Control, click the **More** button next to the device > **Edit**.



2. In the Edit Device dialog box, click **Door 1** from the left pane to access the door-specific settings.
3. You can configure the following settings:



- **Entry / Exit:** In the left pane, toggle the Entry or Exit switch to define the GV-FR Panel's role as an entry or exit reader, based on your installation scenario.
- **Door:** Modify the door name if necessary.

- **Lock Reset Time:** Specify the duration in seconds that the door remains unlocked after access is granted. The door will automatically relock once this time expires. The time is 5 seconds by default.
- **Authentication Factors:** By default, **Facial Feature** authentication is enabled. To require Card + Face (Double Authentication), enable either **One Match** (requires one ID match) or **All Match** (requires all ID numbers to match) for card authentication.
- **Referenced Access Rules:** Select a predefined rule for the Entry or Exit door. See *4.3 Adding Access Rules* in *GV-Cloud Access Control User's Manual* for details. Applying Access Rules is required; enrolled face images are transmitted to the GV-FR Panel V2 based on these assigned rules.
- **Auto Check Out:** Enable this option to automatically check out **visitors** when their faces are recognized at the Entry or Exit door.

Once the configuration is complete, the enrolled face images will be **transmitted** to the GV-FR Panel V2 based on the assigned **Referenced Access Rules**, which should include the appropriate access schedules and doors for the GV-FR Panel V2.

9.3 Enrolling Face Images and Cards

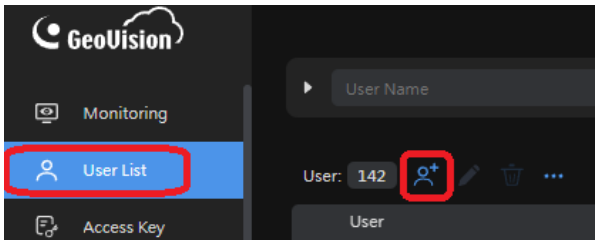
Depending on the authentication mode required for the GV-FR Panel V2, use the corresponding method below to enroll faces and cards.

- For **Card + Face Mode (Double Authentication)**, see section 9.3.1.
- For **Card or Face Mode (Access via card or face recognition),** see section 9.3.2.

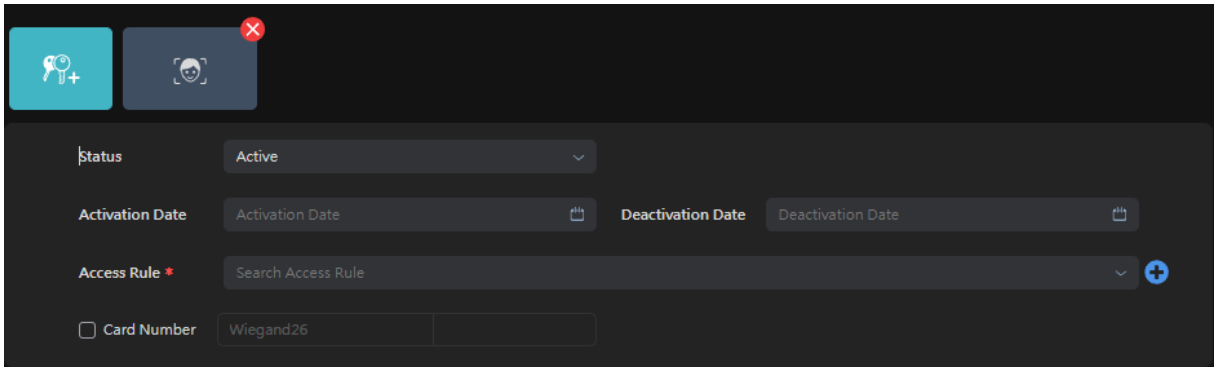
9.3.1 For Face Only Mode or Card + Face Mode

To enroll face images and access cards for **Face Only** or **Card + Face** (Double Authentication) modes in GV-Cloud Access Control, follow the steps below.

1. Select **User List** in the left menu > **Add User** .



2. To add user information, **Display Name** is required. All other user details are optional.
3. To enroll a face image, click  to add an image from the local computer.
4. To add the face feature, click **Major Factor**  > **Facial Feature**. The settings appear at the bottom of the Add User dialog box.



- **Status**: Select to activate or deactivate the card. T
- **Activation Date / Deactivate Date:** Specify the validity period for the license plate.
- **Access Rule:** Select a predefined access rule, or click  to create a new one.

  See *4.3.1 Adding Access Rules* for details.
- **Card Number:** To require Card + Face (Double Authentication), enable **Card Number**, select the card format, and enter the card number.

Note: The Card Number is used for **Card + Face** mode. For **Card or Face** mode, you must enroll cards via **Major Factor** > **Card**.

---

5. Click **Save** to add the User.

Once the configuration is complete, the enrolled face images will be **transmitted** to the GV-FR Panel V2 based on the assigned **Access Rules**, which should include the appropriate access schedules and doors for the GV-FR Panel V2.

To identify face images that failed to enroll successfully, see *9.3.3 Face Enrollment Status.*

9.3.2 For Card or Face Mode

To enroll face images and access cards for **Card or Face Mode** (Access via either card or face recognition) in GV-Cloud Access Control, follow the steps below

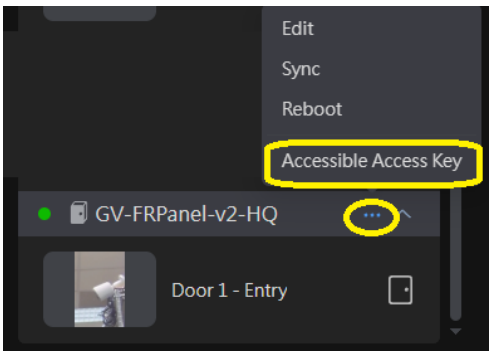
1. To enroll face images, follow the steps in section 9.3.1.
2. To enroll cards, click **Major Factor**  > **Card**.

Once the configuration is complete, the enrolled face images will be **transmitted** to the GV-FR Panel V2 based on the assigned **Access Rules**, which should include the appropriate access schedules and doors for the GV-FR Panel V2.

- To enroll virtual cards—mobile cards or QR codes, see *Chapter 9 QR Code and Mobile Card Integration* in *GV-Cloud Access Control User's Manual*.
- To identify face images that failed to enroll successfully, see *9.3.3 Face Enrollment Status*.

9.3.3 Face Enrollment Status

To search for the face profiles assigned to the GV-FR Panel V2, go to the Device List, click the **More** button next to the device or its associated door, and select **Accessible Access Key.**

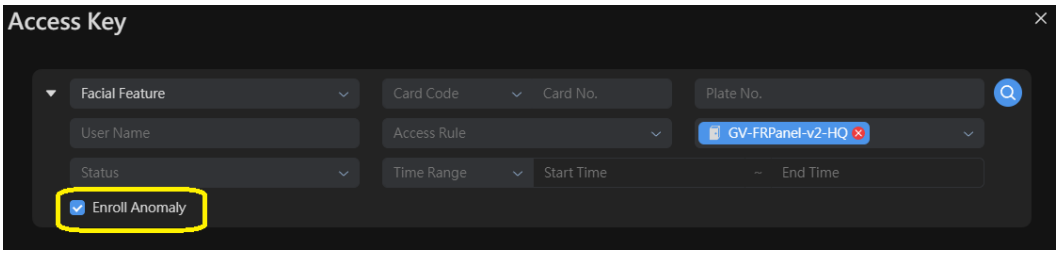


Identifying Face Profiles Assigned to GV-FR Panel V2

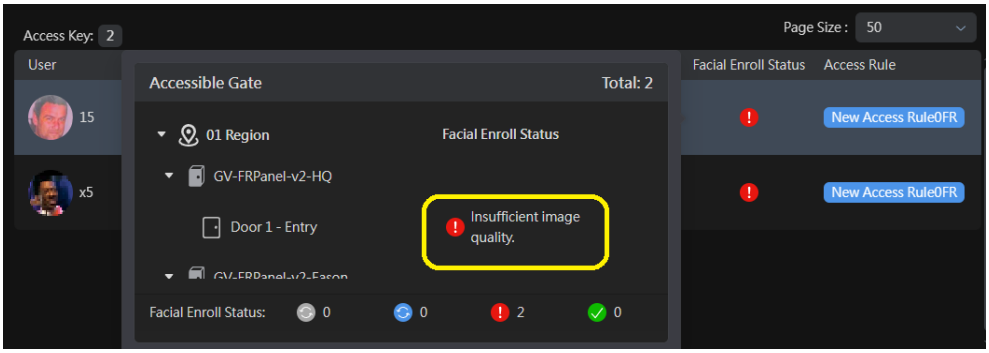
1. For Major Factor, select **Facial Feature**.
2. Select the door associated with the GV-FR Panel V2.
3. Click the **Search** button.

Identifying Face Images that Failed to Enroll Successfully

4. Enable the **Enroll Anomaly** option.



5. Click the **Search** button. The search results appear.
6. Hover over the exclamation mark to view the user's facial enrollment status, such as "Insufficient Image Quality".



Appendix

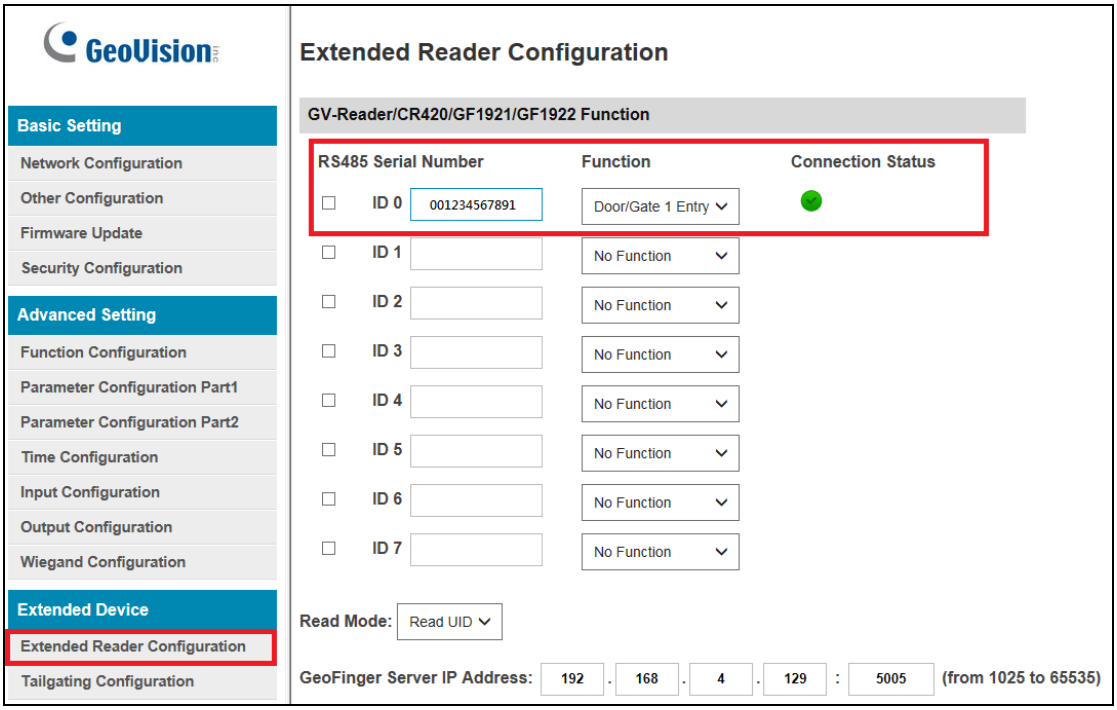
Appendix 1: Connection Verification between FR Panel and Controller

To verify that the GV-FR Panel is successfully connected to the GV-AS Controller:

A. Go to the Controller's Web interface (**Extended Device > Extended Reader Configuration**).

B. Check the following settings:

- The **Virtual MAC** of the GV-FR Panel should be listed under **Serial Number** of the GV-Reader/CR420/GF1921/GF1922 function.
- The **Door** corresponding to the GV-FR Panel should be selected under **Function**.
- The **RS-485** checkbox should **not** be selected.
- The **Connection Status** should display a **green check icon**.



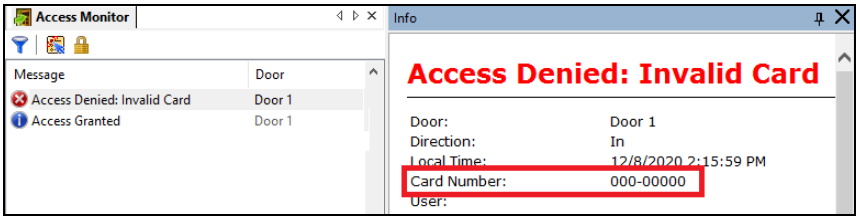
Appendix 2: Access Method Scenarios for FR Panel V2

The table below outlines the expected behavior of GV-FR Panel V2 and GV-ASManager under different scenarios when a face or card is presented. In this case, **a face paired with card number 123-45678 has been registered in GV-ASManager**.

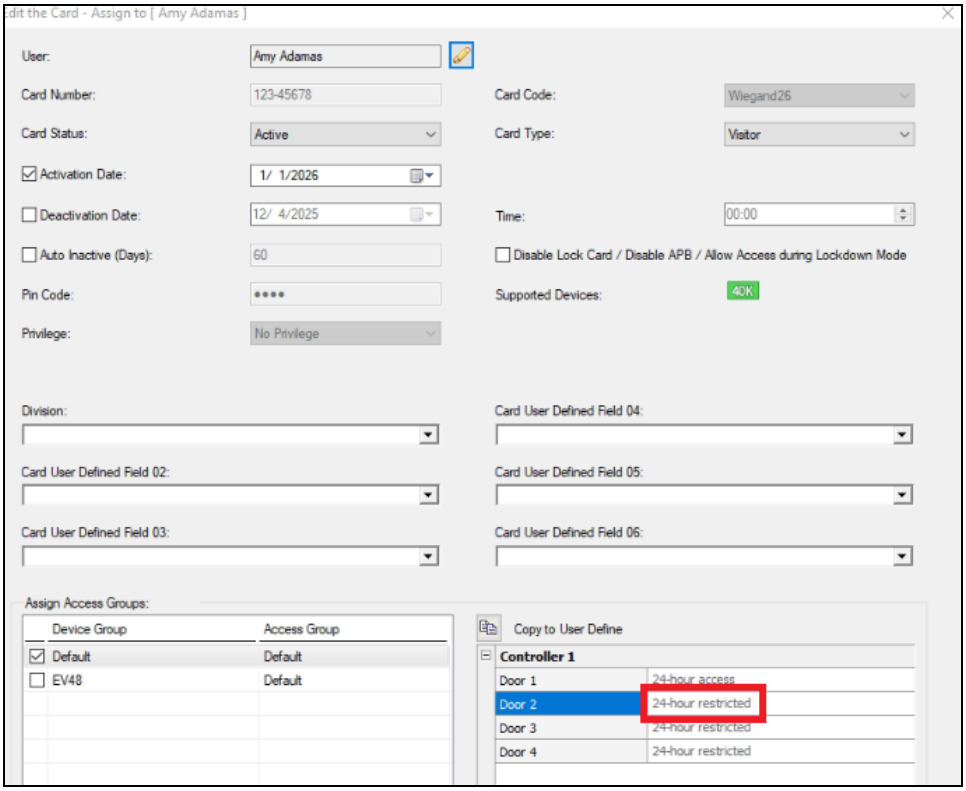
Mode	Access Method	Scenario	FR Panel Action	ASManager Action
Standalone	Face	Face data **not saved** on the panel	Displays “Unknown” with a red light	N/A
		Face data **saved** on the panel	Displays the face with a green light	
	Card	Card data **not saved** on the panel	Displays “Unknown” with a red light	
		Card data **saved** on the panel	Displays the face with a green light	
GV-ASManager	Face	Face data **saved** on the panel and card **granted** for access	Displays the face with a green light	Receives access log with paired card number **“123-45678”**
		Face data **saved** on the panel but card **not granted** for access (4)	Display “Access Denied” with a red light	
		Face data **not saved** on the panel	Display “Access Denied” with a red light	Receives access log with paired card number **“000-00000”** (3)
	Card	Card data **saved** on the panel and card **granted** for access	Displays the face with a green light	Receives access log with paired card number **“123-45678”**
		Card data **saved** on the panel but card **not granted** for access (4)	Displays “Access Denied” with a red light	
		Card data **not saved** on the panel but card **granted** for access	Displays “Access Granted” with a green light	
		Card data **not saved** on the panel and card **not granted** for access (4)	Displays “Access Denied” with a green light	

Note:

1. The panel beeps when a card is detected. When a face is recognized, it will not beep.
2. When connected to GV-ASManager, the operator can manually enable **Access Granted** or **Access Denied**, regardless of whether the presented face or card is registered.
3. The Access Denied log with card number “000-0000”“ in GV-ASManager is illustrated as below.



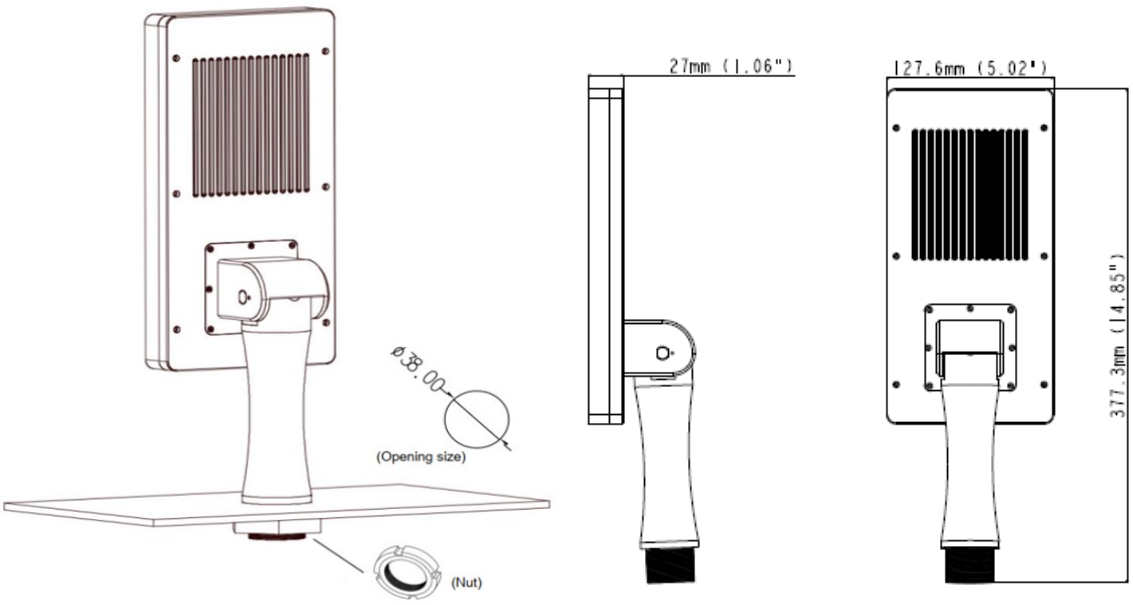
4. A configuration example for “card not granted for access” to a door in GV-ASManager is illustrated below. The card “123-45678” is set to “24-hour restricted” for Door #2.



Appendix 3: Optional Installation for FR Panel V1

GV-Mount800

You can optionally purchase the **GV-Mount800 Surface Mount** to mount the GV-FR Panel V1 on a surface.



GV-Mount800 Packing List

1. GV-Mount800	2. Securing Nut
3. Screw x 7	4. Hex Wrench

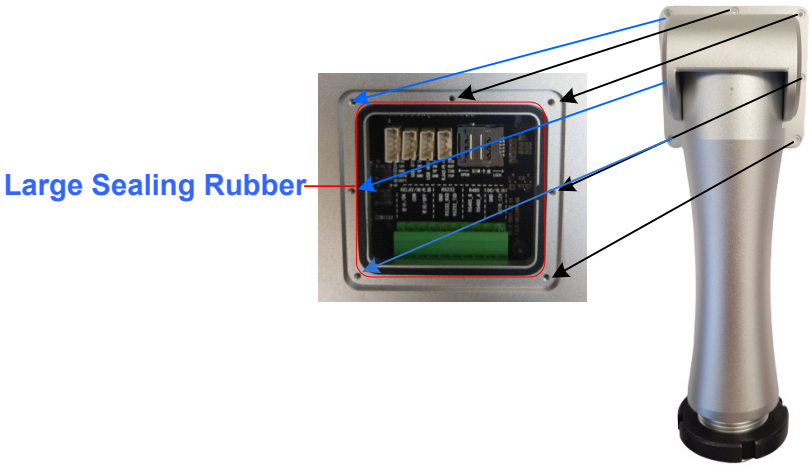
1. Drill a 38-mm (1.50-in) diameter hole on the desired surface for installing the GV-Mount800.
2. Detach the securing nut from the GV-Mount800.



3. Place and secure the GV-Mount800 to the surface by using the securing nut.

4. Once the GV-Mount800 is properly installed, place the **large sealing rubber** of the GV-FR Panel V1 to the back of the panel.

5. Attach and secure the GV-FR Panel V1 to the GV-Mount800 using the seven supplied screws to complete the installation.



Note: Thread the necessary cables through the GV-Mount800 and connect them to the panel before securing the cover.

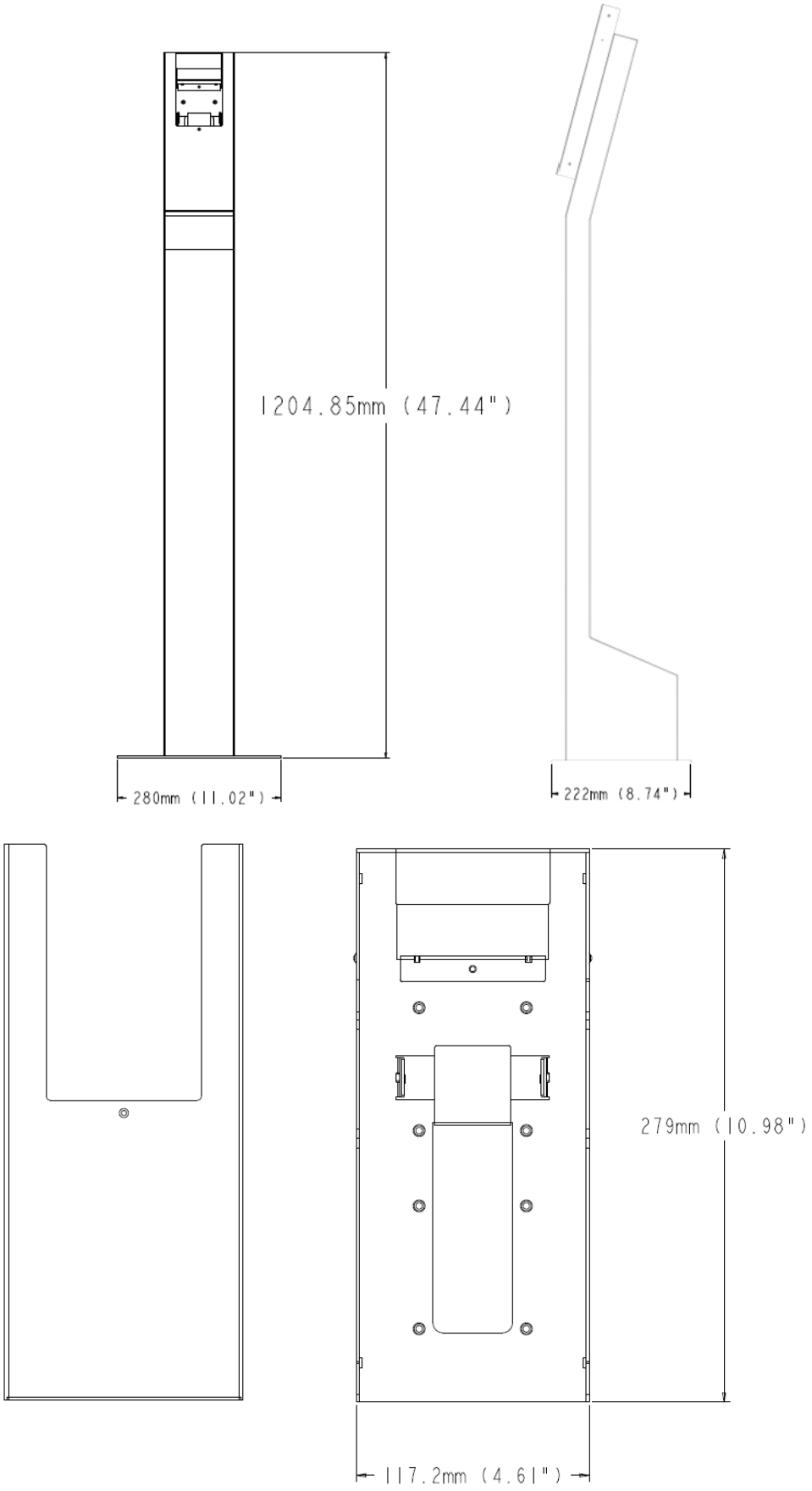
6. Optionally use the supplied hex wrench to adjust the tilt angle of the GV-Mount800



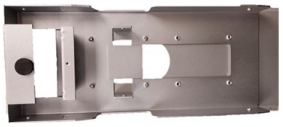
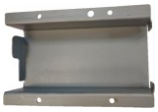
GV-Mount801

You can optionally purchase the **GV-Mount801 Standing Mount** to install the GV-FR Panel V1 at alternative locations, using either **Mobile** or **Stationary** installation.




1204.85mm (47.44")
280mm (11.02")
222mm (8.74")
279mm (10.98")
117.2mm (4.61")

GV-Mount801 Packing List

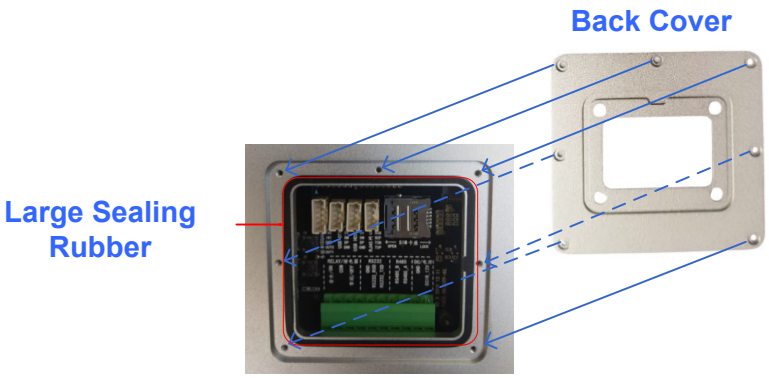
1. GV-Mount801	2. Mount Base 
3. Panel Box Base 	4. Mount Base Cover 
5. Panel Box Cover 	6. Mount Base Cover Screw (M3 x 8 mm / 0.12 in x 0.31 in) x 4 
7. Panel Box Side Screw (M3 x 6 mm / 0.12 in x 0.24 in) x 4 	8. Upper Mount Stand Cover 
9. Panel Box Base Screw (M4 x 6.5 mm / 0.16 in x 0.26 in) x 4 	10. Lower Mount Stand Cover 
11. Nut x 3 	12. Mount Stand Cover Screw (M3 x 8 mm / 0.12 in x 0.31 in) x 12 
13. Plastic Cover	14. Power Adapter Duct 
15. Ground Bolt x 3 (Ground) 	16. Power Adapter Duct Screws (M3 x 8 mm / 0.12 in x 0.31 in) x 4 
17. Large Rubber Plug x 2 	18. Small Rubber Plug x 4 
Note: The Mount Base Cover Screws, Mount Stand Cover Screws, and Power Adapter Duct Screws are identical.	

A. Mobile Installation

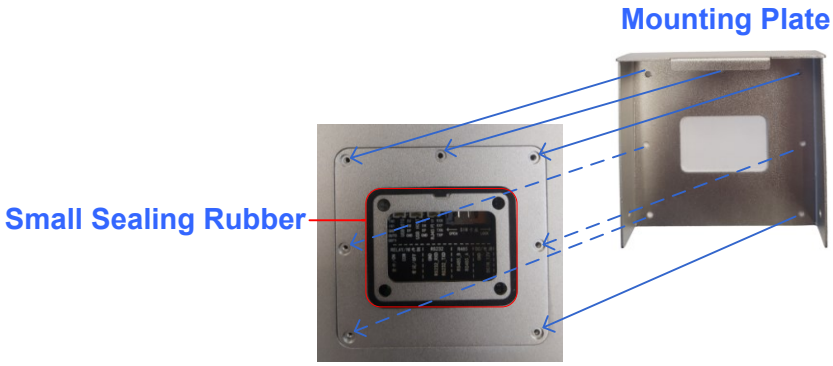
This type of installation allows you to freely install and move your GV-FR Panel V1 from one place to another. Make sure the power source and network are within reach for connection.

Installing the Mounting Plate to GV-FR Panel V1

1. Begin by threading the GV-FR Panel V1's cable connectors through the following items in numerical order.
   1-1. Large sealing rubber (included in the Wall Mount Bracket Kit, *1.2 Packing List*)
   1-2. Back cover of the GV-FR Panel V1
   1-3. Small sealing rubber (included in the Wall Mount 1-Bracket Kit, *1.2 Packing List*)
   1-4. Mounting plate (included in the Wall Mount Bracket Kit, *1.2 Packing List*)
2. Attach the **large sealing rubber** and the **back cover** to the back of the GV-FR Panel V1.

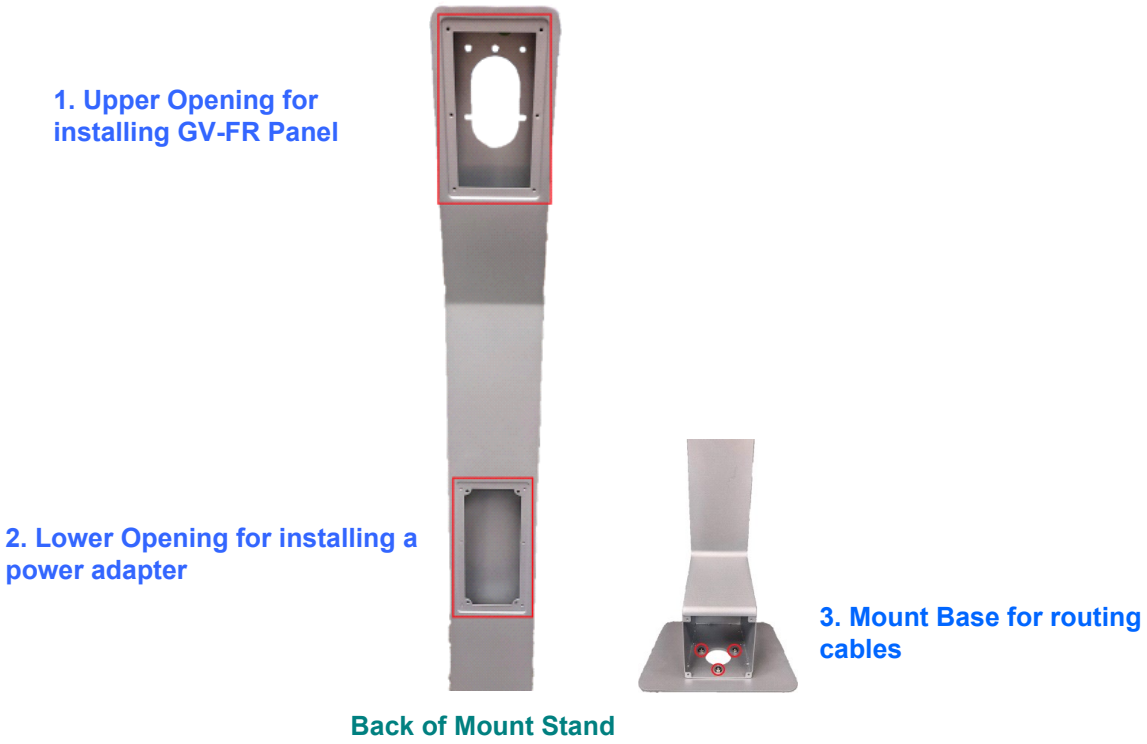


3. Attach the **small sealing rubber** to the back cover, and then attach and secure the **mounting plate** to the GV-FR Panel V1 using the back cover screws (included in the Wall Mount Bracket Kit, *1.2 Packing List*).



Mounting the GV-FR Panel

The GV-Mount801 has three openings behind the **mount stand**, designed for installing the GV-FR Panel, accommodating a power adapter and routing cables.



1. Remove both mount stand covers behind the mount stand.



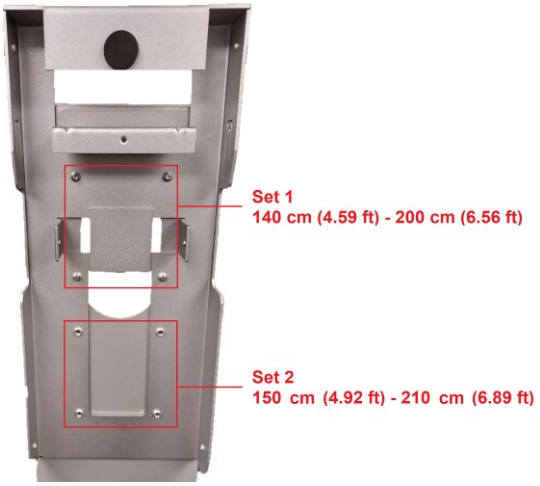
Back of Mount Stand

2. Use a self-prepared hex wrench to secure the mount stand to the mount base with the supplied nuts at the indicated holes.



Mount Base

3. Align the desired set of holes on the **panel box base** (Set 1 or Set 2 as illustrated below) to the four holes on the mount stand, and then insert the supplied panel box base screws (M4 x 6.5 mm / 0.16 in x 0.26 in) **through the upper opening behind the mount stand** to secure them.

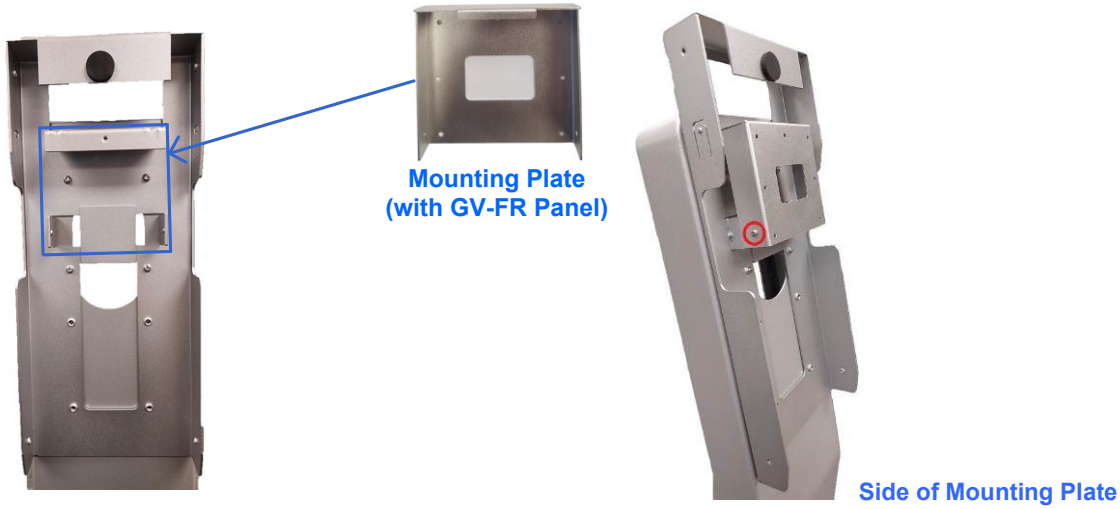


Front of Panel Box Base



Back of Panel Box Base

4. To install GV-FR Panel V1 onto GV-Mount801, thread the cables on GV-FR Panel V1 into the panel box base, and then close the upper mount stand cover.
5. Latch the **mounting plate** (with GV-FR Panel V1) to the protruding part of the panel box base, and then tighten a mounting plate side screw (included in the Wall Mount Bracket Kit, *1.2 Packing List*) to each side of the mounting plate.



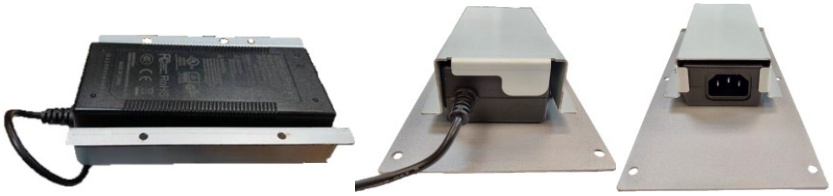
6. Cover the panel box base by sliding the panel box cover from below, and then insert two panel box side screws (M3 x 6 mm / 0.12 in x 0.24 in) on each side of the panel box cover to secure the panel box.



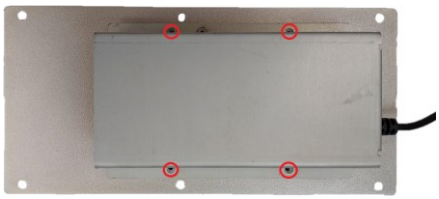
7. Use the lower opening behind the mount stand to connect GV-FR Panel V1 to the power adapter. Once done, close the lower mount stand cover.

Note: You can optionally install the power adapter duct on the lower mount stand cover to secure your power adapter. To do so, follow the steps below.

1. Place the power adapter in the power adapter duct and onto the lower mount stand cover as shown below.



2. Secure the power adapter duct using the supplied power adapter duct screws (M3 x 8 mm / 0.12 in x 0.31 in).



8. Thread the connected cables further down the mount stand, through the opening at the mount base, and then close the mount base cover with the mount base cover screws (M3 x 8 mm / 0.12 in x 0.31 in).



9. Insert the large and small rubber plugs to the side of the mount stand as shown below.

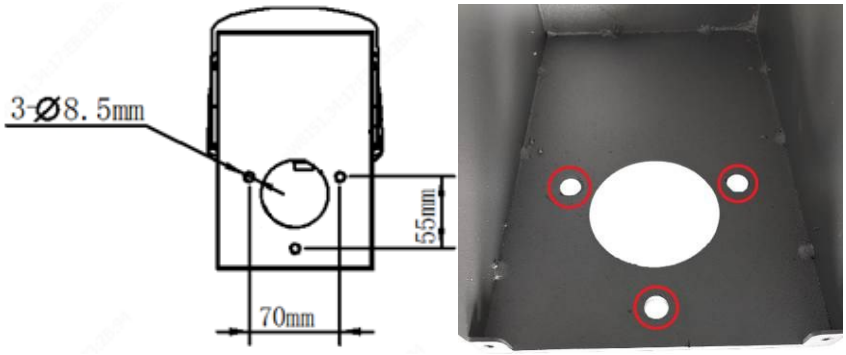


B. Stationary Installation

This type of installation will fix your GV-FR Panel V1 at a single location. Note the following precautions before you begin, as the installation requires drilling three permanent holes on a surface.

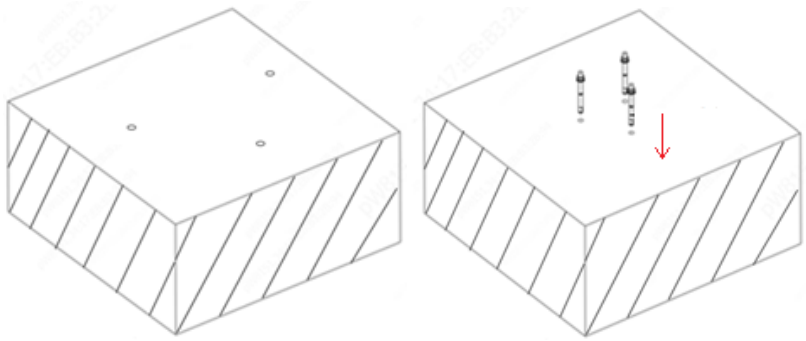
- Make sure no other pipes or wires are embedded below the desired surface
- Make sure the network and power source are within reach for connection
- Avoid installing on fragile materials, such as ceramic tiles

1. Follow Step 1 to 4, *Mobile Installation* to install GV-FR Panel V1 and open the mount stand covers.
2. Place the mount stand on the desired surface (vertically) and use a marker to mark the three indicated holes. Use a self-prepared screw gun to drill each hole with a diameter of 8.5 mm (0.33 in) and a depth of 58 mm (2.28 in).

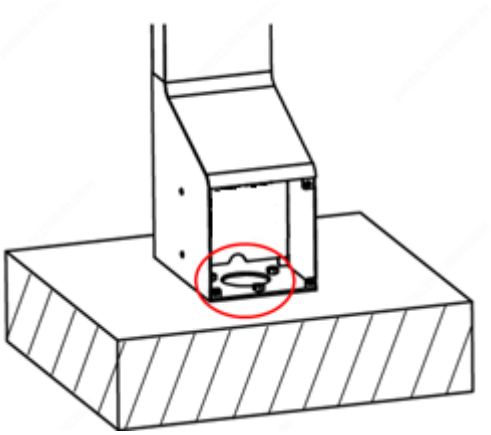


3. Take apart each ground bolt as shown in the figure below, insert each No. 1 upside down into the drilled holes, and then fit each No. 2 back on No. 1.





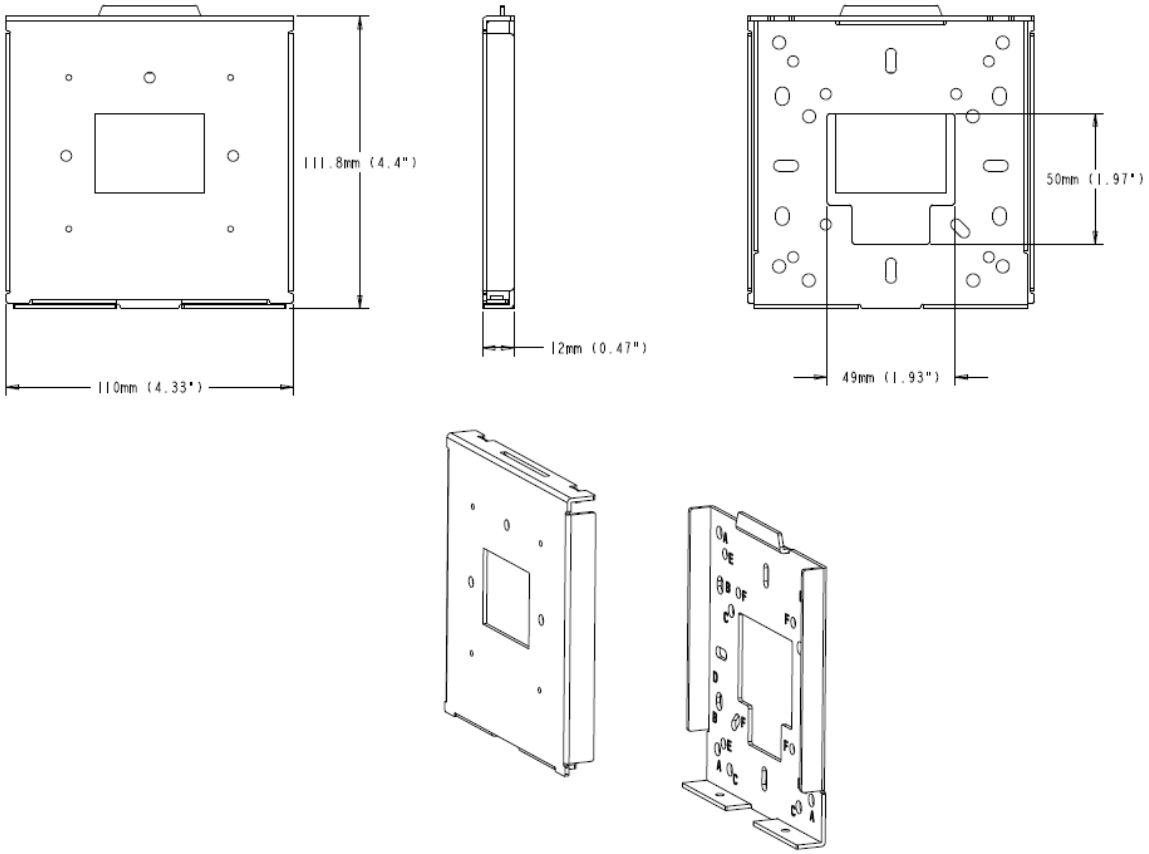
4. Use a self-prepared hex wrench to secure the mount stand to the surface with No. 3, 4 and 5 (refer to Step 3).



5. Follow Step 6 to 12, *Mobile Installation* to complete the GV-Mount801 installation.

GV-Mount920

You can optionally purchase the **GV-Mount920 VESA / Power Box Mount Bracket** to mount the GV-FR Panel V1 on a surface, power box, or VESA mount.

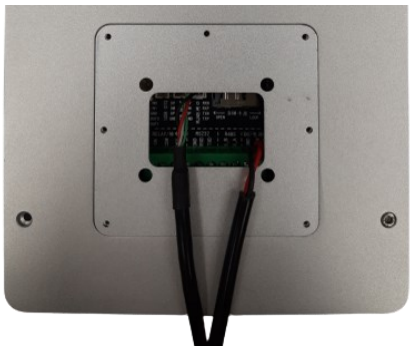


GV-Mount920 Packing List

1. Wall Mount Bracket Top 	2. Wall Mount Bracket Base 
3. Screw Anchor x 4 	4. M3.5xL32 Screw x 4 
5. Torx Wrench x1 	6. M3x4 Screw x 2 
7. M2x6 Screw x 7 	

Installing the GV-FR Panel V1 to Surfaces

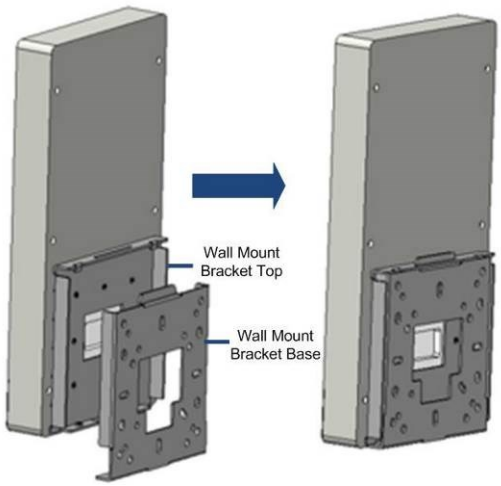
1. Drill holes on the desired surface for installing the GV-Mount920.
2. Place and secure the **Wall Mount Bracket Base** to the desired surface using the supplied screws and anchors.
3. Place the **Back Cover** with the sealing rubber to the rear panel of GV-FR Panel V1.



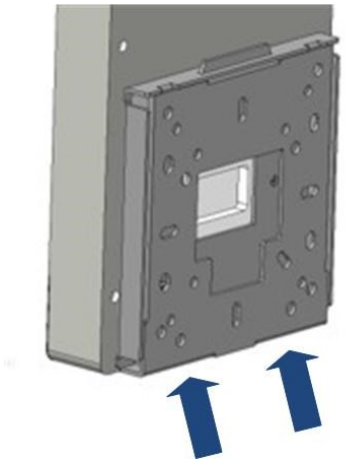
4. Place and secure the **Wall Mount Bracket Top** to the rear panel using the seven supplied M2x6 screws.



5. Tilt the GV-FR Panel V1 and slide it down to integrate the Wall Mount Bracket Top and Base.

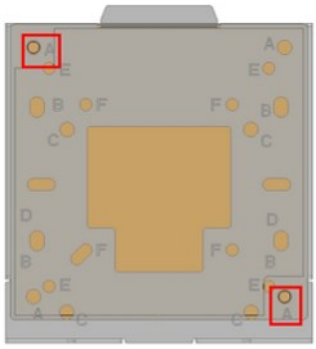
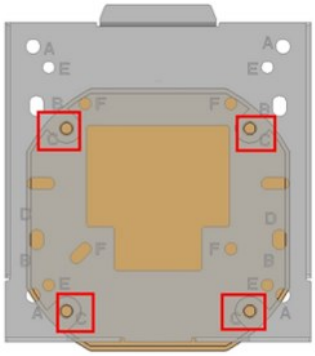
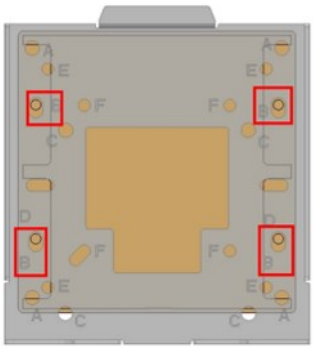
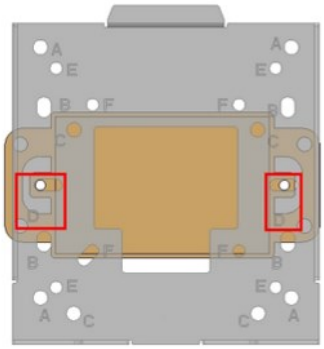


6. Secure the bottom of the Wall Mount Bracket Top and Base using two M3x4 screws supplied, to complete the installation.



A. Types of Power Boxes or VESA Mounts

1. The GV-FR Panel V1 can be installed onto four types of power boxes with the **GV-Mount920**. On the Wall Mount Bracket Base, the corresponding holes for each type are marked with A-F:

Type of Power Box	Hole	Type of Power Box	Hole
4'' Square	A	Double Gang	B
			
4'' Octagon	C	Single Gang	D
			

2. To install the GV-FR Panel V1 onto VESA mounts with the **GV-Mount920**, 2 types of screw holes are applicable:

Type of Screw Hole	
75 x 75 mm (2.95 x 2.95 in) VESA Mount	Hole E
50 x 50 mm (1.97 x 1.97 in) VESA Mount	Hole F

Note: The screws for installing the GV-Mount920 onto power boxes or VESA mounts are not included in the kit.

Appendix 4: Optional Installation for FR Panel V2

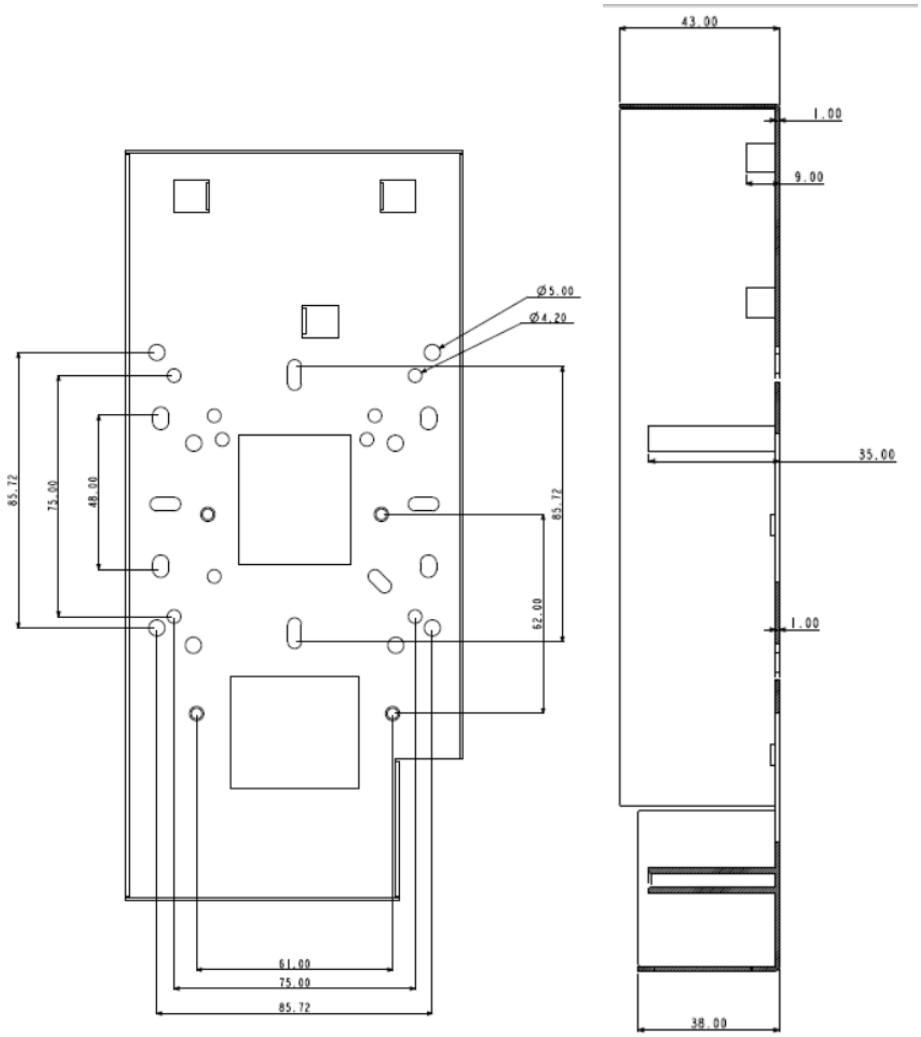
GV-Mount516

You can optionally purchase the **GV-Mount516 Junction Box** to mount the GV-FR Panel V2 in a wall, and with power box or VESA mount.

GV-Mount516 Packing List

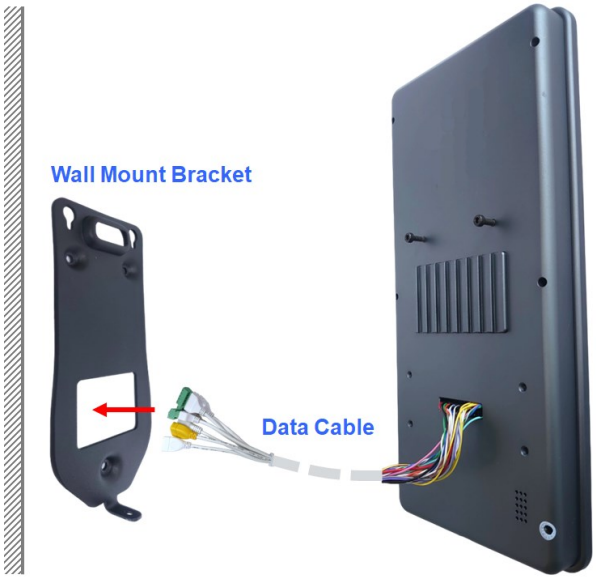
1. Junction Box 	2. M4 Screw x 3

Measure Unit: mm



A. Junction Box Installation

1. Guide the data cable attached to GV-FR Panel V2 through the square hole in the Wall Mount Bracket.



2. Route the data cable to the Junction Box as illustrated below.



3. Fix the Wall Mount Bracket to the Junction Box using the 3 supplied screws from GV-Mount516.



7. Securely hang the GV-FR Panel V2 on the Wall Mount Bracket, and fasten the bracket to GV-FR Panel V2 from the bottom using one of the provided 5 mm (0.20 in) screws (included in the GV-FR Panel V2 package). Refer to the illustrations in Steps 5 and 6, *1.5.2.1 Wall Installation*.

B. Types of Power Boxes or VESA Mounts

The GV-FR Panel V2 can be installed onto **four types of power boxes** using the **GV-Mount516**. It can also be installed onto **VESA mounts** with the **GV-Mount516**.
For details on both applications, see ***A. Types of Power Boxes and VESA Mounts*** in the *GV-Mount920* section.

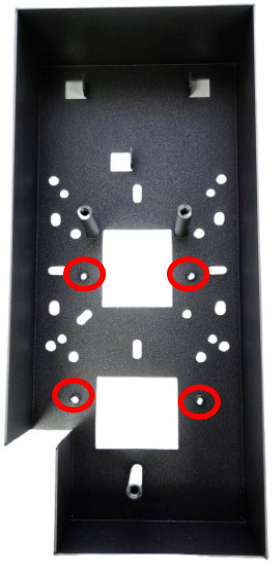
C. Stand Mount Installation

The **GV-Mount516 Junction Box** can be installed on the **GV-Mount801 Stand Mount**.

1. Align the GV-Mount516 Junction Box with the GV-Mount801 Stand Mount, matching the four screw holes as indicated on both mounts below. Insert the supplied panel box base screws (M4 x 6.5 mm / 0.16 in x 0.26 in) through **the upper opening behind the mount stand** to secure both mounts.



Upper Opening of GV-Mount801 Stand



GV-Mount516

2. Mount GV-FR Panel V2 to the GV-Mount516 by following steps in *A. Junction Box Installation,* in the *GV-Mount516* section.
3. To complete the installation, follow Steps 7 and 8 in the *GV-Mount801* section.