



# GV-I/O Box 4E

## Contents

<b>1.1</b>	<b>Key Features</b> .....	<b>2</b>
<b>1.2</b>	<b>Compatible Software</b> .....	<b>3</b>
<b>1.3</b>	<b>Packing List</b> .....	<b>3</b>
<b>1.4</b>	<b>Overview</b> .....	<b>3</b>
<b>1.5</b>	<b>Connecting to PC</b> .....	<b>5</b>
1.5.1	RS-485 Wiring .....	5
<b>1.6</b>	<b>Assigning Device ID to GV-I/O Box 4E</b> .....	<b>5</b>
<b>1.7</b>	<b>Accessing GV-I/O Box 4E</b> .....	<b>6</b>
1.7.1	Checking the Dynamic IP Address .....	7
1.7.2	Configuring the Static IP Address .....	8
1.7.3	Configuring a DDNS Domain Name .....	9
1.7.3.1	Registering a DDNS Domain Name .....	9
1.7.3.2	Configuring the DDNS Domain Name on Web Interface .....	10
1.7.3.3	Enabling the Cloud Service .....	12
<b>1.8</b>	<b>Other Setting</b> .....	<b>13</b>
<b>1.9</b>	<b>Input Setting</b> .....	<b>14</b>
<b>1.10</b>	<b>Output Setting</b> .....	<b>15</b>
<b>1.11</b>	<b>In/Out Monitor</b> .....	<b>16</b>
<b>1.12</b>	<b>Updating Firmware</b> .....	<b>17</b>
<b>1.13</b>	<b>Changing Login ID and Password</b> .....	<b>18</b>
<b>1.14</b>	<b>Viewing System Log Information</b> .....	<b>18</b>



## GV-I/O Box 4E



A small but a capable device, the GV-I/O Box 4E provides 4 inputs and 4 relay outputs. It provides both DC and AC output voltages, PoE, TCP / IP and RS-485 port for PC connection. The device also supports GV-IoT app for remote management via mobile devices.

### 1.1 Key Features

- 4 inputs and 4 outputs are provided.
- The TCP / IP and RS-485 ports are provided for PC connection.
- DC 12V, 3A / PoE+ (IEEE 802.3at).
- Up to 9 GV-I/O Box 4 / 8 / 16 ports can be linked together.
- Up to 16 connections from GeoVision software are allowed to control one GV-I/O Box.
- Supports GV-IoT mobile app for remote management



## 1.2 Compatible Software

- GV-DVR / NVR / VMS
- GV-ASManager
- GV-Control Center
- GV-Center V2

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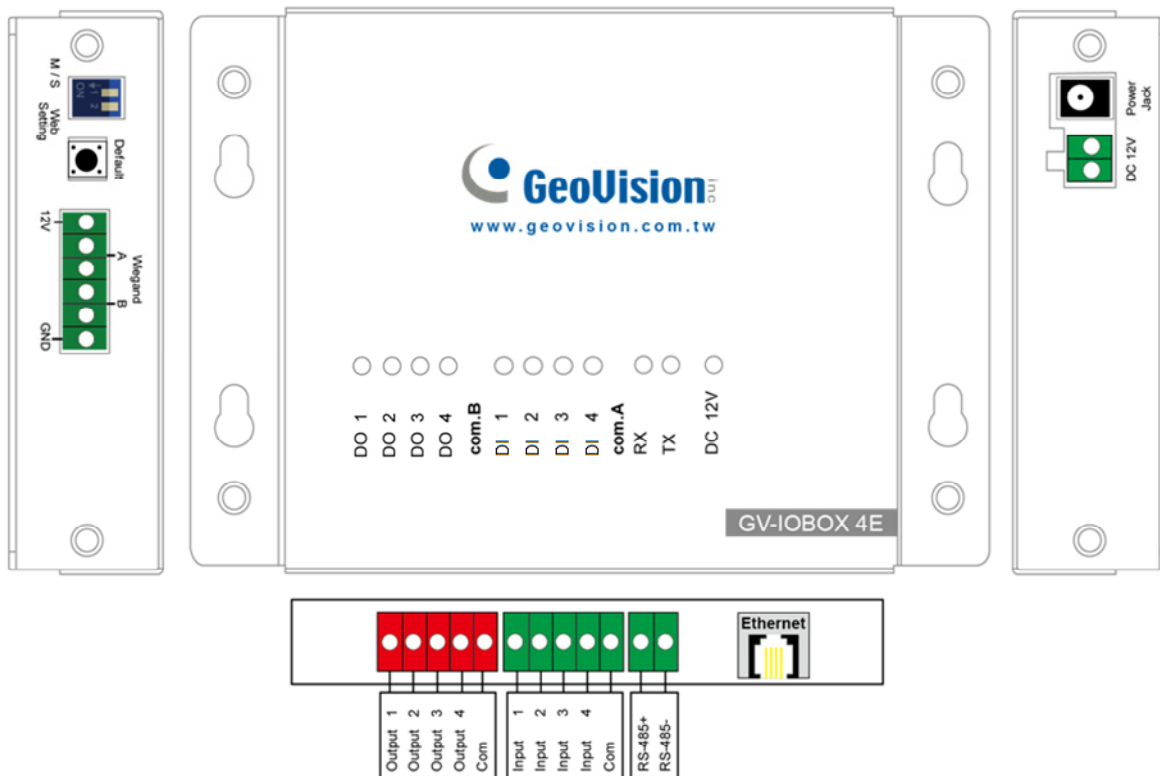
**Note:** GV-ASManager and GV-Control Center only accept network connection from GV-IO Box.

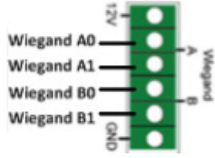
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## 1.3 Packing List

- GV-I/O Box 4E
- Warranty Card
- Download Guide

## 1.4 Overview





GV-I/O Box 4E provides two sets of Wiegand inputs (Wiegand A and Wiegand B) to connect up to 2 Wiegand readers.



You can reset GV-I/O Box 4E to factory default if it is not functioning correctly. To do this, hold down the **Default** button with a pointy object such as the tip of a pen for 3 to 5 seconds.



You can power compatible devices connected to the DC 12V power output.



Web Setting  
GUI security lock

Switch on to lock all system configurations on the Web interface of GV-I/O Box 4E.

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**Note:** The M/S switch does not have any function.

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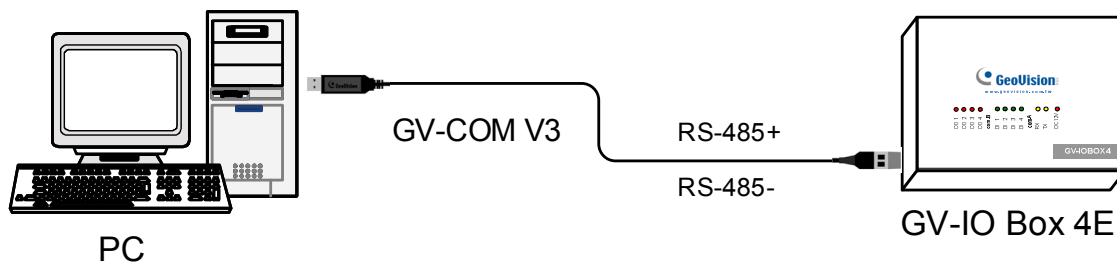
## 1.5 Connecting to PC

There are two ways to connect GV-I/O Box to a PC. Only one of the two methods can be applied at a time.

1. **RS-485 wiring:** Through GV-COM V3, use the RS-485 connectors to connect to a PC. RS-485 connection is suitable for longer distance wiring of up to 600 m / 1968.5 ft.
2. **Network:** See *1.7 Accessing GV-I/O Box 4E*.

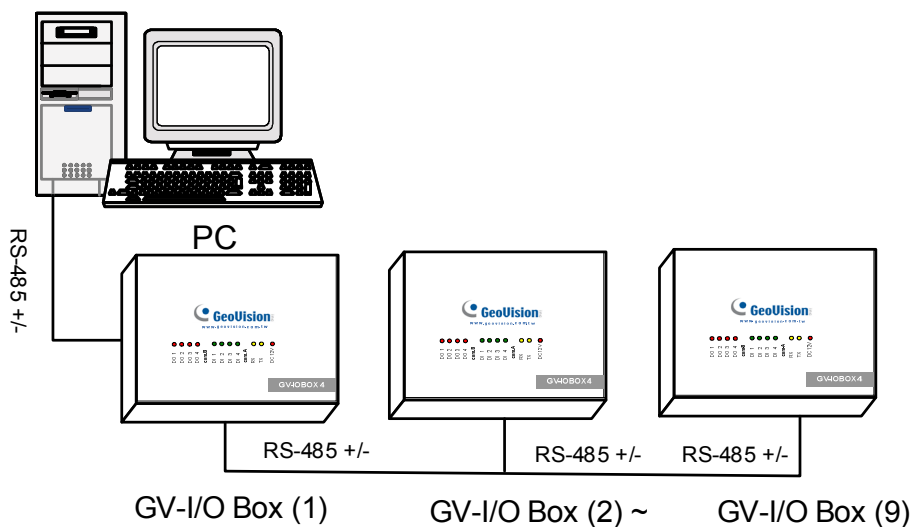
### 1.5.1 RS-485 Wiring

You can run RS-485 wire through GV-COM V3 to connect a GV-I/O Box 4E to a PC.



## 1.6 Assigning Device ID to GV-I/O Box 4E

Up to 9 pieces of GV-I/O Box can be linked together to expand the I/O capacity. You can assign Device ID 1~ 15 to the connected pieces of GV-I/O Box using the Web interface. For details, see *1.8 Other Settings*.





## 1.7 Accessing GV-I/O Box 4E

You can link the GV-I/O Box 4E to GV-DVR / NVR / VMS / GV-ASManager / GV-Control Center over networks for I/O management through the Web interface. While accessing the GV-I/O Box 4E, make sure the connected network is stable and the following system requirement is met:

- Microsoft Internet Explorer 8.0 or later

There are three ways to set up GV-I/O Box 4E on the network:

1. By default, when the GV-I/O Box 4E is connected to a network with a DHCP server, a dynamic IP address will be assigned to the GV-I/O Box 4E. See *1.7.1. Checking the Dynamic IP Address* to look up this IP address.
2. When the DHCP server on your network is unavailable or disabled, GV-I/O box is accessible by its default static IP address **192.168.0.100**. See *1.7.2 Configuring the Static IP Address*.
3. You may also use the DDNS (Dynamic Domain Name System) instead of IP address to access GV-I/O Box 4E. For details on domain name service, see *1.7.3 Configuring a DDNS Domain Name*.

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### Note:

Notice these specifications for GeoVision software applications:

1. GV-I/O Box is linked to GV-DVR / NVR / VMS by using the **Virtual I/O** function. GV-DVR / NVR / VMS supports up to 9 I/O modules which include real and virtual I/O devices linked through networks.
  2. Up to 16 connections from GeoVision software are allowed to control one GV-I/O Box.
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## 1.7.1 Checking the Dynamic IP Address


Follow the steps below to look up the IP address and access the Web interface.

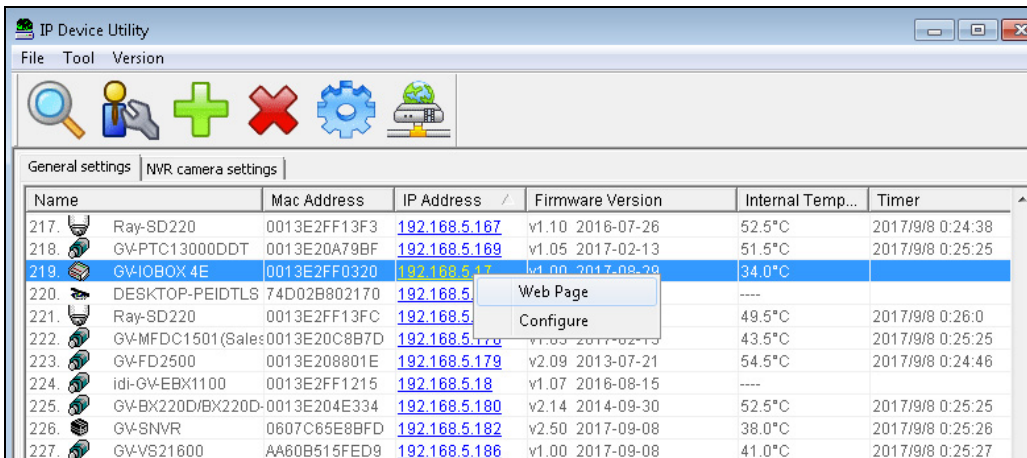
1. Download and Install the GV-IP Device Utility program from <http://www.geovision.com.tw/download/product/>.

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**Note:** The PC installed with GV-IP Device Utility must be under the same LAN as the GV-I/O Box you wish to configure.

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2. On the GV-IP Utility window, click the  button to search for the IP devices connected in the same LAN. Click the **Name** or **Mac Address** column to sort.
3. Find the GV-I/O Box 4E with its Mac Address, click on its IP address and select **Web Page**.



Name	Mac Address	IP Address	Firmware Version	Internal Temp...	Timer
217. Ray-SD220	0013E2FF13F3	<a href="#">192.168.5.167</a>	v1.10 2016-07-26	52.5°C	2017/9/8 0:24:38
218. GV-PTC13000DDT	0013E20A79BF	<a href="#">192.168.5.169</a>	v1.05 2017-02-13	51.5°C	2017/9/8 0:25:25
219. GV-I/O BOX 4E	0013E2FF0320	<a href="#">192.168.5.17</a>	v1.00 2017-09-29	34.0°C	
220. DESKTOP-PEIDTLS	74D02B802170	<a href="#">192.168.5</a>		----	
221. Ray-SD220	0013E2FF13FC	<a href="#">192.168.5</a>		49.5°C	2017/9/8 0:26:0
222. GV-MFDC1501(Sales	0013E20C8B7D	<a href="#">192.168.5.179</a>	v1.05 2017-02-13	43.5°C	2017/9/8 0:25:25
223. GV-FD2500	0013E208801E	<a href="#">192.168.5.179</a>	v2.09 2013-07-21	54.5°C	2017/9/8 0:24:46
224. idi-GV-EBX1100	0013E2FF1215	<a href="#">192.168.5.18</a>	v1.07 2016-08-15	----	
225. GV-BX220D/BX220D-	0013E204E334	<a href="#">192.168.5.180</a>	v2.14 2014-09-30	52.5°C	2017/9/8 0:25:25
226. GV-SNVR	0607C65E8BFD	<a href="#">192.168.5.182</a>	v2.50 2017-09-08	38.0°C	2017/9/8 0:25:26
227. GV-VS21600	AA60B515FED9	<a href="#">192.168.5.186</a>	v1.00 2017-09-08	41.0°C	2017/9/8 0:25:27

4. In the login page, Type the default ID and password **admin** and click **OK** to log in.



## 1.7.2 Configuring the Static IP Address

By default, the GV-I/O Box 4E uses a DHCP connection. However, you can follow the instructions to configure the static IP address.

1. Open your Web browser, and type the default static IP address <https://192.168.0.100>.
2. In both Login and Password fields, type default value **admin**. Click **OK** and this page appears.

Network Configuration				
<b>Machine Name</b>				
Machine Name	GV-I/O BOX 4E			
<b>DHCP Client</b>				
	<input checked="" type="radio"/> Enable			
	<input type="radio"/> Disable			
<b>IP Address</b>	192	168	4	127
<b>Subnet Mask</b>	255	255	248	0
<b>Default Gateway</b>	192	168	0	1
<b>Domain Name Server</b>	8	8	8	8

3. In the **Machine Name** field, edit the name of the GV-I/O Box 4E.
4. Click **Disable**. Type the static IP address information, including IP Address, Subnet Mask, Default Gateway and Domain Name Server.
5. Click **Submit**. When the setting is complete, the Status field will indicate *Register Success*. Then GV-I/O Box 4E can be accessed through the fixed IP address.

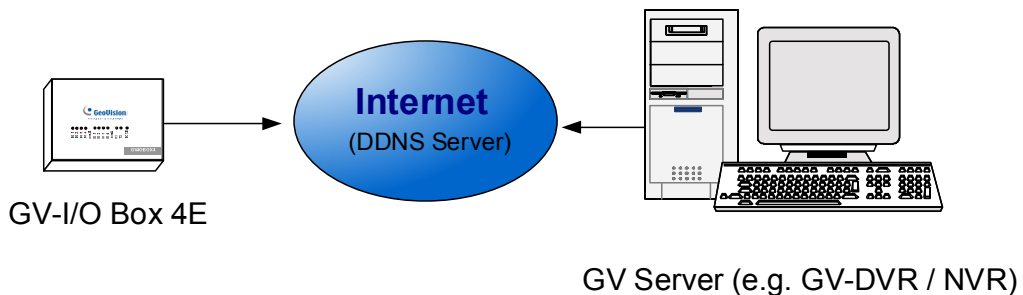




### 1.7.3 Configuring a DDNS Domain Name

DDNS (Dynamic Domain Name System) provides another way of accessing GV-I/O Box 4E when using a dynamic IP from a DHCP server. DDNS assigns a domain name to GV-I/O Box 4E so that GV servers can always access GV-I/O Box 4E by using the domain name.

To enable the DDNS function, first you should apply for a domain name from the **GeoVision DDNS Server**, the DDNS service provider's website. See the following instructions to register at GeoVision DDNS Server.



#### 1.7.3.1 Registering a DDNS Domain Name

To obtain a domain name from the GeoVision DDNS Server:

1. Click the **GeoVision DDNS** button on the Network Configuration page. Or open an Internet browser, and type the Web address <http://ns.gvdip.com/register.aspx> This page appears.

**GV-Dynamic DNS Service V2**

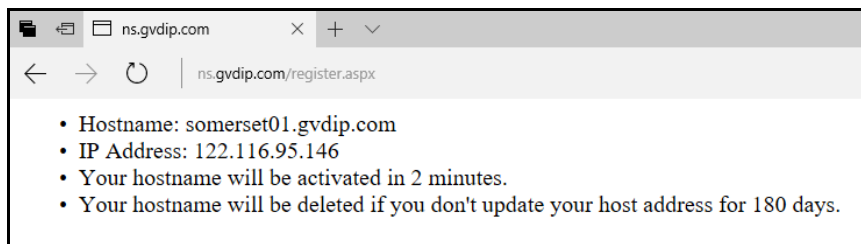
**Register**

<p>Hostname _____gvdip.com</p> <p>Password: _____</p> <p>Re-type Password: _____</p>	<p><b>Hostname</b></p> <p><small>Hostname is 16-character maximum; hostname may not start with spaces or minus signs ("-").</small></p> <p><b>Password</b></p> <p><small>The password is case-sensitive.</small></p>
<p>Enter the characters as they are shown in the box below.</p> <div style="border: 1px solid gray; padding: 5px; text-align: center; font-size: 2em; font-family: cursive;"> </div>	<p><b>Word Verification</b></p> <p><small>This step helps us prevent automated registrations.</small></p>

2. In the Hostname field, type a name. Hostname can be up to 16 characters with the choices of "a ~ z", "0 ~9", and "-". Note that space or "-" cannot be used as the first character



3. In the **Password** field, type a password. Passwords are case-sensitive and must be at least 6 characters. Type the password again in the Re-type Password field for confirmation.
4. In the Word Verification section, type the characters or numbers shown in the box. For example, type *m2ec* in the required field. Word Verification is not case-sensitive.
5. Click the **Send** button. When the registration is complete, this page will appear. The **Hostname** is the domain name, consisting of the registered username and “gvdip.com”, e.g. somerset01.gvdip.com.



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**Note:** The registered username will be invalid when it is not used for three months.

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### 1.7.3.2 Configuring the DDNS Domain Name on Web Interface

After acquiring a domain name from the DDNS Server, you need to configure the domain name on GV-I/O Box 4E so that GV servers can access GV-I/O Box 4E by using the domain name on Internet.

1. Follow the Steps 1 to 2 in *Configuring the Static IP Address* section. The Network Configuration page appears.
2. Click **Enable**, and select **Send to DDNS**.



3. Type **Host Name**, **User Name** and **Password** that are registered on the DDNS Server.  
The system will automatically bring up the Host Name.

**GeoVision**  
The Vision of Security

- Network Setting
- Other Setting
- Input Setting
- Output Setting
- In/Out Monitor
- Firmware Update
- Account Setting
- System Log Viewer
- About

Network Configuration

**Machine Name**

Machine Name: GV-IOBOX 8E-Henry

**DHCP Client**

Enable

Disable

IP Address: 192, 168, 4, 127

Subnet Mask: 255, 255, 248, 0

Default Gateway: 192, 168, 0, 1

Domain Name Server: 8, 8, 8, 8

**Domain Name Service**

Disable

Send to LocalDDNS

Server IP: 192, 168, 0, 10

Device Name: user

Send to DDNS

GeoVision DDNS | GeoVision DDNS

Host Name: \_\_\_\_\_

User Name: \_\_\_\_\_

Password: \_\_\_\_\_

Cloud Service

4. Click **Submit**. When the setting is complete, the Status field will indicate: Register Success. Then GV-I/O Box 4E can be accessed with this domain name.



### 1.7.3.3 Enabling the Cloud Service

The Cloud Service enables you to assign your GV-I/O Box 4E to a GV-Cloud Center account so you can use the GV-IoT mobile app to define the input and output pins and trigger output devices remotely. For details, see [GV-IoT Installation Guide](#).

1. In the left menu, click **Network Setting**. When the Network Configuration page appears, scroll down to the Cloud Service section.

**Cloud Service**

**Disable**

**Enable**

**User Name**

**Password**

2. Click **Enable** and enter your GV-Cloud Center **User Name** and **Password**.
3. Click **Submit** to save the settings.



## 1.8 Other Setting

In the left menu, click **Other Setting**. This page appears.



- Network Setting
- **Other Setting**
- Input Setting
- Output Setting
- In/Out Monitor
- Firmware Update
- Account Setting
- System Log Viewer
- About

### Other Configuration

**Device ID**

**Device ID**

**Connection to IO-BOX**

**Connection to IO-BOX**

**Communication Port**

**Communication Port**

**Wiegand Card Filter Setting**

**Wiegand A Filter**

**Wiegand A Filter Duration**  (3~60 seconds)

**Wiegand B Filter**

**Wiegand B Filter Duration**  (3~60 seconds)

**Mac Address / Firmware Version**

**Mac Address** **00:13:E2:FF:27:FA**

**Ethernet Module Version** **V2.0.3-20190821**

**Reboot System / Set Default**

**Reboot System:**

**Default Value:**

**[Device ID]** Select the Device ID for the device.

**[Connection to IO-BOX]** Select either **TCP/IP** or **RS-485** as the connection method for the GV-I/O Box 4E.

**[Communication Port]** Keeps the default port value **10000**.

**[Wiegand Card Filter Setting]**

- **Wiegand A/B Filter:** Enable to avoid recording repeated access logs, from the same card via Wiegand port A or B, within the duration set.

⊙ **Wiegand A/B Filter Duration:** Set the duration of filter, from 3 ~ 60 seconds.

**[Mac Address/Firmware Version]** Indicates the MAC address of the network medium and the Ethernet module version of GV-I/O Box 4E.



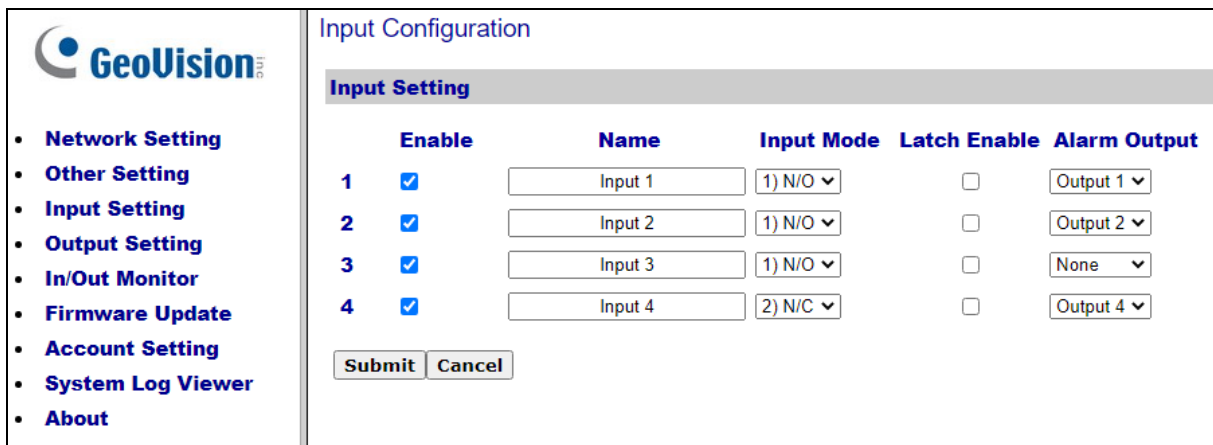
### [Reboot System/Set Default]

- **Reboot System:** Performs a warm boot of GV-I/O Box 4E. This operation keeps the current configuration.
- **Default Value:** Resets all configuration parameters back to factory settings. This may take 5 seconds to complete.

**Note:** If you are switching the connection from RS-485 to network, first remove the RS-485 cable from GV-I/O Box 4E before selecting **TCP/IP** in this setting page; otherwise, the network connection will not function.

## 1.9 Input Setting

In the left menu, click **Input Setting**. This page appears.



The screenshot shows the 'Input Configuration' page. On the left is a navigation menu with options: Network Setting, Other Setting, **Input Setting**, Output Setting, In/Out Monitor, Firmware Update, Account Setting, System Log Viewer, and About. The main content area is titled 'Input Configuration' and contains a sub-section 'Input Setting'. Below this is a table with columns: Enable, Name, Input Mode, Latch Enable, and Alarm Output. There are four rows for Input 1 through Input 4. Each row has a checked 'Enable' checkbox, a text input field for the name (e.g., 'Input 1'), a dropdown for 'Input Mode' (e.g., '1) N/O'), an unchecked 'Latch Enable' checkbox, and a dropdown for 'Alarm Output' (e.g., 'Output 1'). At the bottom of the table are 'Submit' and 'Cancel' buttons.

	Enable	Name	Input Mode	Latch Enable	Alarm Output
1	<input checked="" type="checkbox"/>	Input 1	1) N/O	<input type="checkbox"/>	Output 1
2	<input checked="" type="checkbox"/>	Input 2	1) N/O	<input type="checkbox"/>	Output 2
3	<input checked="" type="checkbox"/>	Input 3	1) N/O	<input type="checkbox"/>	None
4	<input checked="" type="checkbox"/>	Input 4	2) N/C	<input type="checkbox"/>	Output 4


- **Enable:** Select to enable this Input function to be used by GV-I/O Box 4E.
- **Name:** Name the input. The name is restricted to 16 alphanumeric characters or 5 Chinese characters.
- **Input Mode:** Configure the input to **NC** (normally closed) or **NO** (normally open) mode.
- **Enable Latch:** Instead of a constant output of N/O or N/C, this option provides a momentary alarm when triggered.
- **Alarm Output:** Select **None** for no alarm output, or select between **Output 1** and **Output 4** to trigger when the input is detected.

Click the **Submit** button to save the changes, or click the **Cancel** button to return the changes to its previous state.



## 1.10 Output Setting

In the left menu, click **Output Setting**. This page appears.


Output Configuration

**Output Setting**

	Enable	Name	Output Mode	Pulse Mode Delay Time(1 - 255)	
1	<input checked="" type="checkbox"/>	<input type="text" value="Output 1"/>	6) Pulse Mode N/C ▾	<input type="text" value="255"/>	<b>Sec</b>
2	<input checked="" type="checkbox"/>	<input type="text" value="Output 2"/>	5) Pulse Mode N/O ▾	<input type="text" value="5"/>	<b>Sec</b>
3	<input checked="" type="checkbox"/>	<input type="text" value="Output 3"/>	2) Normal Mode N/C ▾	<input type="text" value="5"/>	<b>Sec</b>
4	<input checked="" type="checkbox"/>	<input type="text" value="Output 4"/>	6) Pulse Mode N/C ▾	<input type="text" value="5"/>	<b>Sec</b>

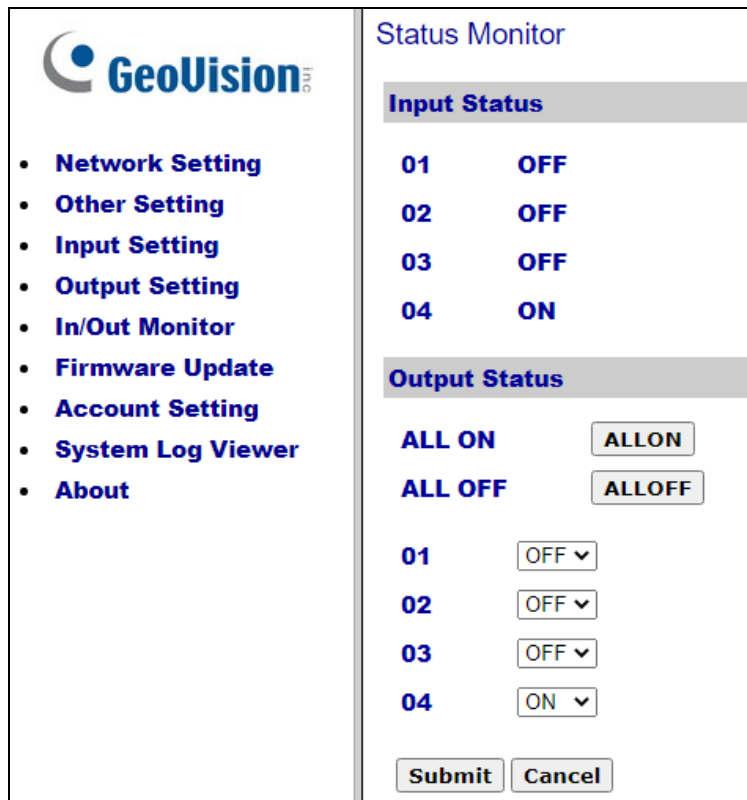
- **Enable:** Select to enable this Output function to be used by GV-I/O Box 4E.
- **Name:** Name the output. The name is restricted to 16 alphanumeric characters or 5 Chinese characters.
- **Output Mode:** Configure the input to **NC** (normally closed) or **NO** (normally open) mode.
  - ⊙ **Normal Mode (N/O and N/C):** Output continues to be triggered until the source of the output condition is stopped.
  - ⊙ **Toggle Mode (N/O and N/C):** Output continues to be triggered until a new input trigger ends the output.
  - ⊙ **Pulse Mode (N/O and N/C):** Output is triggered for the amount of time set in the **Pulse Mode Delay Time (1-255)** field.
- **Pulse Mode Delay Time (1-255):** Type the time in seconds for the pulse delay time between 1 and 255 seconds.

Click the **Submit** button to save the changes, or click the **Cancel** button to return the changes to its previous state.



## 1.11 In/Out Monitor

In the left menu, click **In/Out Monitor**. This page appears.



The screenshot shows the 'Status Monitor' page. On the left is a navigation menu with the following items: Network Setting, Other Setting, Input Setting, Output Setting, In/Out Monitor (highlighted), Firmware Update, Account Setting, System Log Viewer, and About. The main content area is titled 'Status Monitor' and is divided into two sections: 'Input Status' and 'Output Status'. The 'Input Status' section shows four inputs: 01 OFF, 02 OFF, 03 OFF, and 04 ON. The 'Output Status' section has two buttons: 'ALL ON' and 'ALL OFF'. Below these are four dropdown menus for individual outputs: 01 OFF, 02 OFF, 03 OFF, and 04 ON. At the bottom are 'Submit' and 'Cancel' buttons.

- **Input Status:** Indicates the current status of the 4 inputs, whether it is **On** (triggered) or **OFF** (no input).
- **Output Status:** Indicates the current status of the 4 outputs, whether it is **ON** (triggered) or **Off** (no output). Click the **ALL ON** button to force all 4 outputs to be triggered. Click the **ALL OFF** button to turn off all 4 outputs. Select the individual outputs to turn it **ON** to force the output to be triggered or turn it **OFF**.

Click the **Submit** button to save the changes, or click the **Cancel** button to return the changes to its previous state.





## 1.12 Updating Firmware

To update the firmware of GV-I/O Box 4E, follow the steps below:

1. In the left menu, click **Firmware Update**. This page appears.

The screenshot shows the 'Firmware Update' page. On the left is a navigation menu with the following items: Network Setting, Other Setting, Input Setting, Output Setting, In/Out Monitor, **Firmware Update**, Account Setting, System Log Viewer, and About. The main content area is titled 'Firmware Update' and contains a red warning box with the text: 'Firmware Update. After pressing the Update button, please wait while the update request is being processed. After update is completed, the device will reboot automatically. You can re-login afterwards.' Below the warning box is a 'Select Firmware:' section with a 'Choose File' button and the text 'No file chosen'. A green 'Upload' button is positioned below the file selection. At the bottom, there is an 'Update State:' field and an 'Update Process:' field showing '0 %' with a progress bar below it.

2. Click the **Browse...** button to open the firmware file (\*.bin)
3. Click the **Upload** button. This update procedure may take 60 seconds to complete.
4. When the Update is complete, a dialog box appears and asks you to reboot the system.
5. Click **OK**. GV-I/O Box 4E starts the reboot operation.

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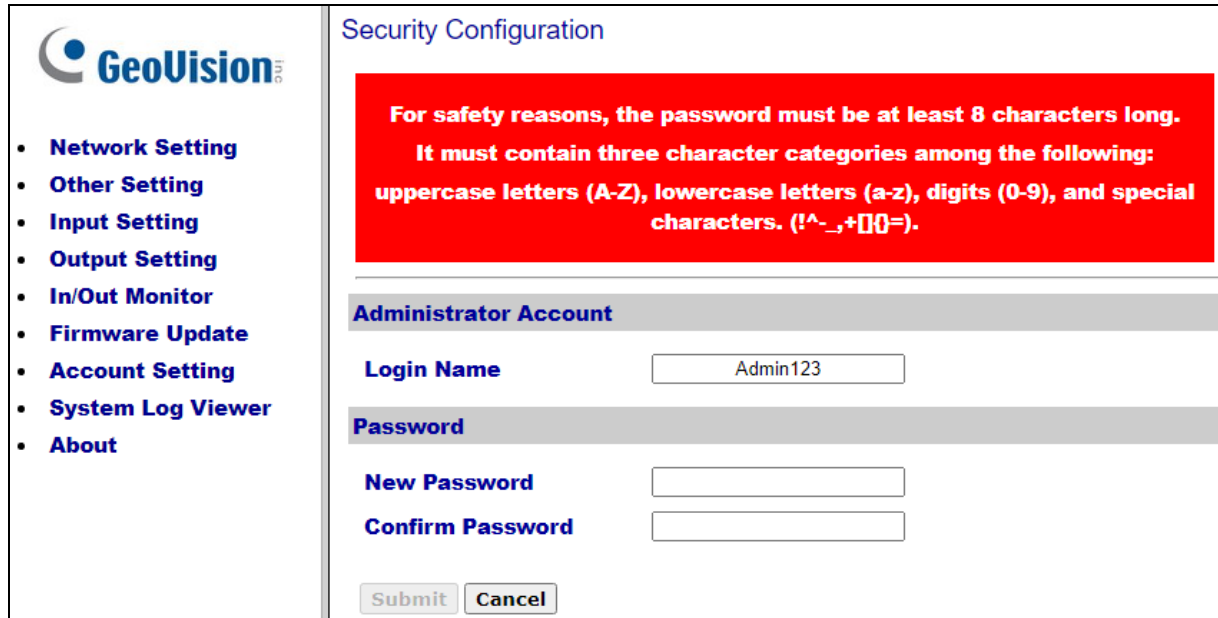
### IMPORTANT:

1. It is required to reboot GV-I/O Box 4E after updating the firmware. Without rebooting, the firmware update is not complete.
  2. If you are having issues updating to firmware V2.00, please contact our local GV vendor or our team at [support@geovision.com.tw](mailto:support@geovision.com.tw) for further assistance.
-



## 1.13 Changing Login ID and Password

In the left menu, click **Account Setting**. This page appears. You can modify the login name and password. The password is case sensitive and is limited to 4 characters with the choices of “a ~ z” and “0 ~ 9”.



The screenshot shows the 'Security Configuration' page. On the left is a navigation menu with the following items: Network Setting, Other Setting, Input Setting, Output Setting, In/Out Monitor, Firmware Update, Account Setting, System Log Viewer, and About. The main content area has a red warning box with the text: 'For safety reasons, the password must be at least 8 characters long. It must contain three character categories among the following: uppercase letters (A-Z), lowercase letters (a-z), digits (0-9), and special characters. (!^\_~+[]{}=)'. Below this is the 'Administrator Account' section with a 'Login Name' field containing 'Admin123'. The 'Password' section has 'New Password' and 'Confirm Password' fields. At the bottom are 'Submit' and 'Cancel' buttons.

## 1.14 Viewing System Log Information

The system log information contains the current system status and dump data that can be used by service personnel for analyzing problems.