



GV-I/O Box 4E

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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.

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(E)/8/16 ports can be linked together.
- Up to 16 Connections from GeoVision software are allowed to control one GV-I/O Box.

1.2 System Requirements

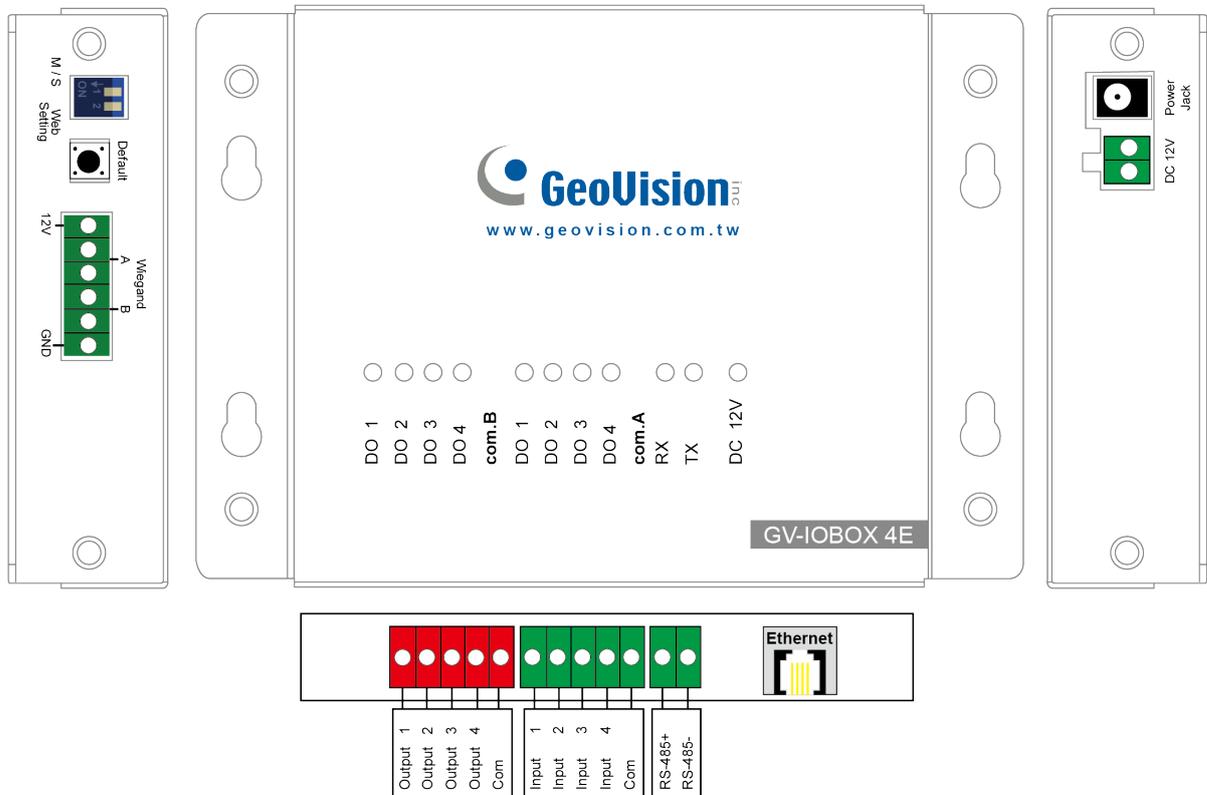
- GV-VMS V17.1.0.0 or later
- GV-DVR / NVR V8.7.4.0 or later
- GV-ASManager V5.0.0.0 or later
- GV-Control Center V3.5.0.0 or later

1.3 Packing List

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

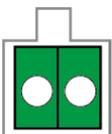


1.4 Overview



Default

You can reset the 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.



DC 12V

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

Note: The M/S switch and the Wiegand interface do not have any function. It will not work if you attempted to connect any readers to the connectors.



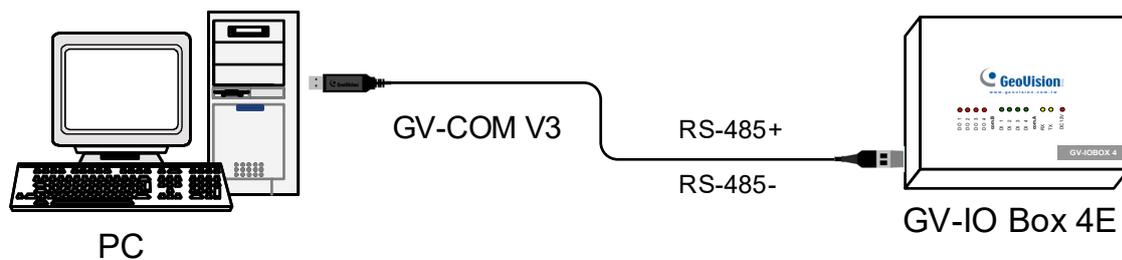
1.5 Connecting to PC

There are two ways to connect a GV-I/O Box 4E to the PC. Only one of the two methods can be used at a time.

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

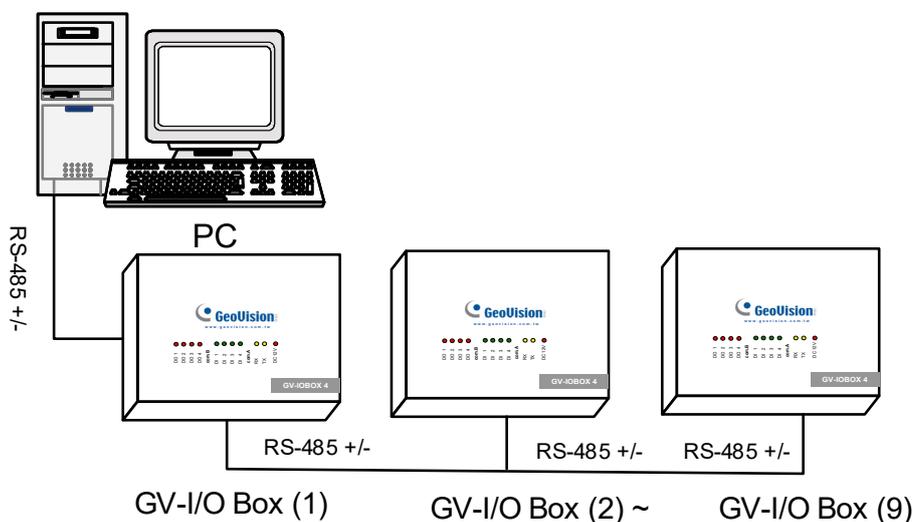
1.5.1 RS-485 Wiring

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

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.
-



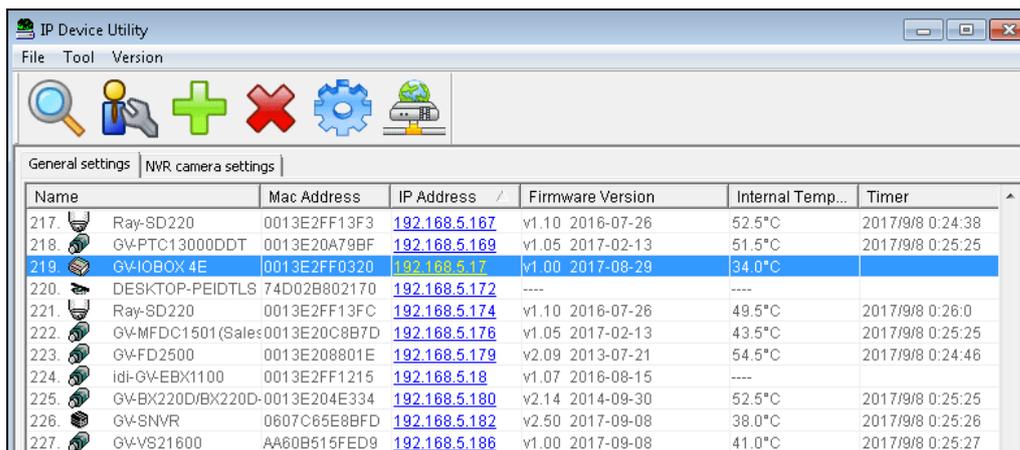
1.7.1 Checking the Dynamic IP Address

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/>.

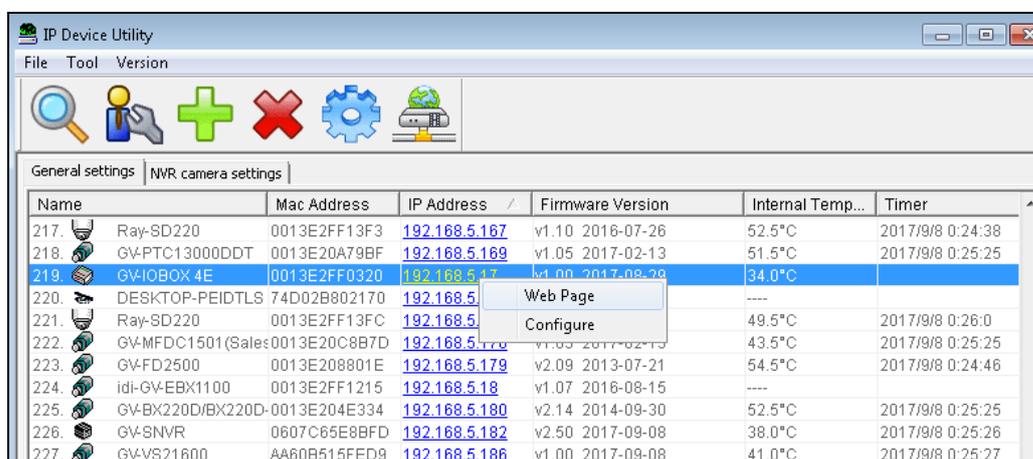
Note: The PC installed with GV-IP Device Utility must be under the same LAN with the GV-I/O Box you wish to configure.

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.



Name	Mac Address	IP Address	Firmware Version	Internal Temp...	Timer
217. Ray-SD220	0013E2FF13F3	192.168.5.167	v1.10 2016-07-26	52.5°C	2017/9/8 0:24:38
218. GV-PTC13000DDT	0013E20A79BF	192.168.5.169	v1.05 2017-02-13	51.5°C	2017/9/8 0:25:25
219. GV-I/O BOX 4E	0013E2FF0320	192.168.5.17	v1.00 2017-08-29	34.0°C	
220. DESKTOP-PEIDTLS	74D02B802170	192.168.5.172	---	---	
221. Ray-SD220	0013E2FF13FC	192.168.5.174	v1.10 2016-07-26	49.5°C	2017/9/8 0:26:0
222. GV-MFDC1501(Sales	0013E20C8B7D	192.168.5.176	v1.05 2017-02-13	43.5°C	2017/9/8 0:25:25
223. GV-FD2500	0013E208801E	192.168.5.179	v2.09 2013-07-21	54.5°C	2017/9/8 0:24:46
224. idi-GV-EBX1100	0013E2FF1215	192.168.5.18	v1.07 2016-08-15	---	
225. GV-BX220D/BX220D-	0013E204E334	192.168.5.180	v2.14 2014-09-30	52.5°C	2017/9/8 0:25:25
226. GV-SNVR	0607C65E8BFD	192.168.5.182	v2.50 2017-09-08	38.0°C	2017/9/8 0:25:26
227. GV-VS21600	AA60B515FED9	192.168.5.186	v1.00 2017-09-08	41.0°C	2017/9/8 0:25:27

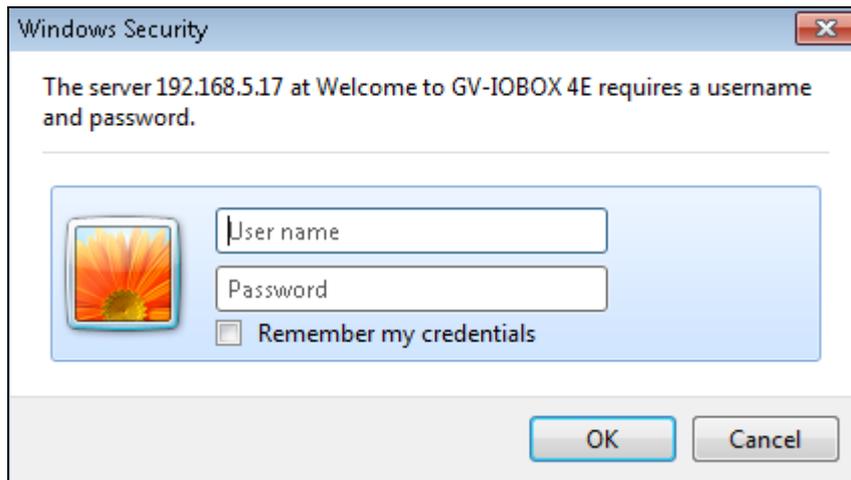
3. Find the GV-I/O Box 4E with its Mac Address, click on its IP address and select **Web Page**.



Name	Mac Address	IP Address	Firmware Version	Internal Temp...	Timer
217. Ray-SD220	0013E2FF13F3	192.168.5.167	v1.10 2016-07-26	52.5°C	2017/9/8 0:24:38
218. GV-PTC13000DDT	0013E20A79BF	192.168.5.169	v1.05 2017-02-13	51.5°C	2017/9/8 0:25:25
219. GV-I/O BOX 4E	0013E2FF0320	192.168.5.17	v1.00 2017-08-29	34.0°C	
220. DESKTOP-PEIDTLS	74D02B802170	192.168.5.172	---	---	
221. Ray-SD220	0013E2FF13FC	192.168.5.174	v1.10 2016-07-26	49.5°C	2017/9/8 0:26:0
222. GV-MFDC1501(Sales	0013E20C8B7D	192.168.5.176	v1.05 2017-02-13	43.5°C	2017/9/8 0:25:25
223. GV-FD2500	0013E208801E	192.168.5.179	v2.09 2013-07-21	54.5°C	2017/9/8 0:24:46
224. idi-GV-EBX1100	0013E2FF1215	192.168.5.18	v1.07 2016-08-15	---	
225. GV-BX220D/BX220D-	0013E204E334	192.168.5.180	v2.14 2014-09-30	52.5°C	2017/9/8 0:25:25
226. GV-SNVR	0607C65E8BFD	192.168.5.182	v2.50 2017-09-08	38.0°C	2017/9/8 0:25:26
227. GV-VS21600	AA60B515FED9	192.168.5.186	v1.00 2017-09-08	41.0°C	2017/9/8 0:25:27



4. The login page appears.



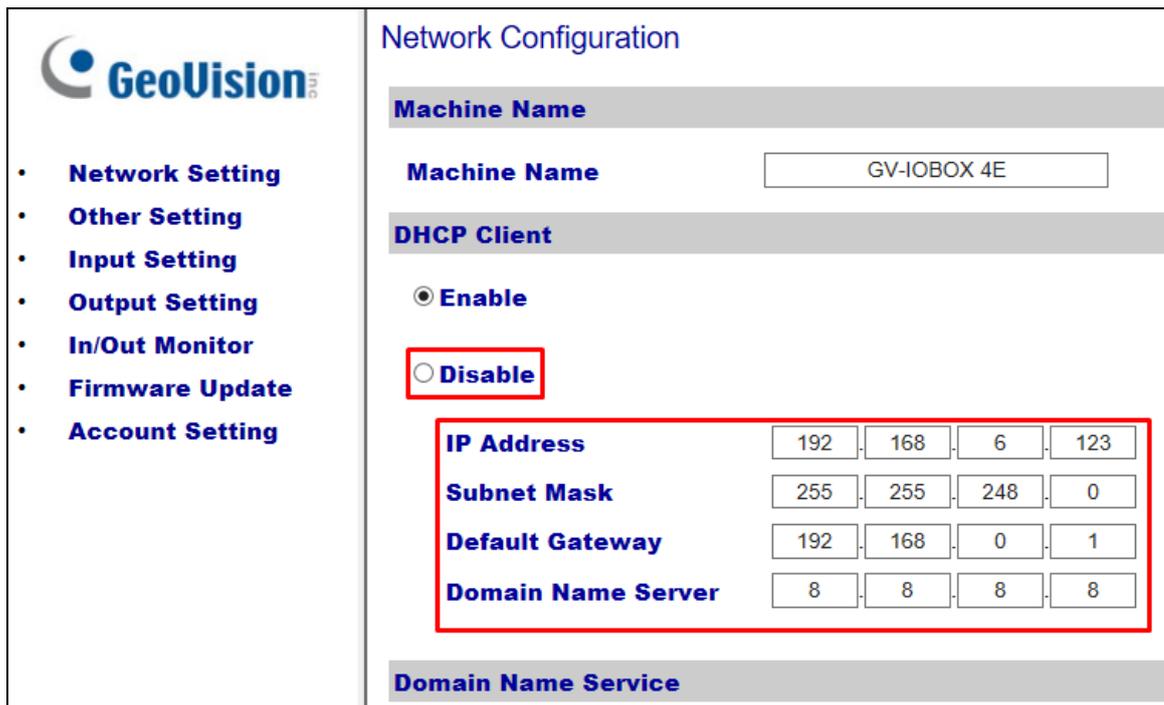
5. Type the default ID and password **admin** and click **OK** to log in.



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

- **Network Setting**
- **Other Setting**
- **Input Setting**
- **Output Setting**
- **In/Out Monitor**
- **Firmware Update**
- **Account Setting**

Machine Name

Machine Name

DHCP Client

Enable

Disable

IP Address	192	168	6	123
Subnet Mask	255	255	248	0
Default Gateway	192	168	0	1
Domain Name Server	8	8	8	8

Domain Name Service

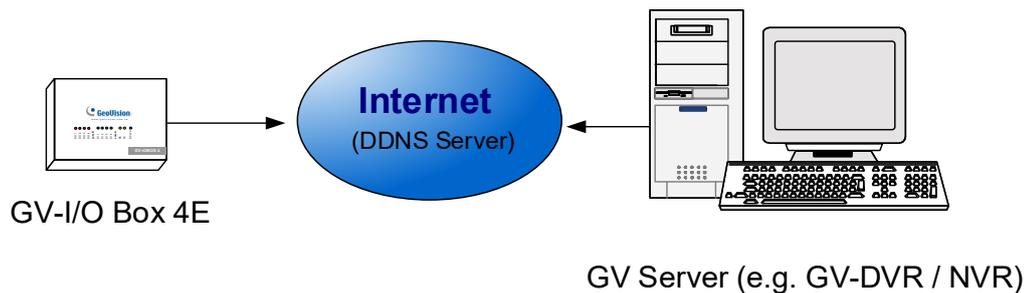
3. In the **Machine Name** field, edit the name of the GV-I/O Box 4E.
4. Click **Disable**. Type the static IP address information, including IP Address, Subnet Mask, Default Gateway and Domain Name Server.
5. Click **Submit**. When the setting is complete, the Status field will indicate *Register Success*.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

Hostname _____gvdip.com Password: _____ Re-type Password: _____	Hostname Hostname is 16-character maximum; hostname may not start with spaces or minus signs ("-"). Password The password is case-sensitive.
---	---

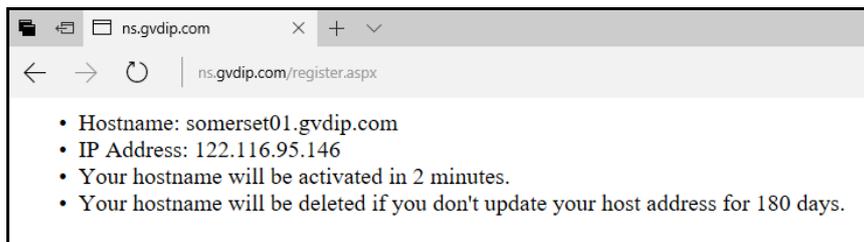
Enter the characters as they are shown in the box below.

This step helps us prevent automated registrations.

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.



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

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.



Network Configuration

Machine Name

Machine Name:

DHCP Client

Enable

Disable

IP Address:

Subnet Mask:

Default Gateway:

Domain Name Server:

Domain Name Service

Disable

Send to LocalDDNS

Server IP:

Device Name:

Send to DDNS

GeoVision DDNS

Host Name:

User Name:

Password:

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.



1.8 Other Setting

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

 <ul style="list-style-type: none"> • Network Setting • Other Setting • Input Setting • Output Setting • In/Out Monitor • Firmware Update • Account Setting 	<h3>Other Configuration</h3> <div style="background-color: #f0f0f0; padding: 2px;">Device ID</div> <p>Device ID <input type="text" value="5"/></p> <div style="background-color: #f0f0f0; padding: 2px;">Connection to IO-BOX</div> <p>Connection to IO-BOX <input type="text" value="RS485"/></p> <div style="background-color: #f0f0f0; padding: 2px;">Communication Port</div> <p>Communication Port <input type="text" value="10000"/></p> <div style="background-color: #f0f0f0; padding: 2px;">Mac Address / Firmware Version</div> <p>Mac Address 00:13:E2:FF:27:F7</p> <p>Ethernet Module Version V1.0.0-20170829</p> <div style="background-color: #f0f0f0; padding: 2px;">Reboot System / Set Default</div> <p>Reboot System: <input type="button" value="Reboot"/></p> <p>Default Value: <input type="button" value="Default"/></p> <p><input type="button" value="Submit"/> <input type="button" value="Cancel"/></p>
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[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**.

[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.

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

Submit Cancel

- **Enable:** Select to enable this Input function to be used by GV-I/O Box 4E.
- **Name:** Edit the name of the Input.
- **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.



- Network Setting
- Other Setting
- Input Setting
- **Output Setting**
- In/Out Monitor
- Firmware Update
- Account Setting

Output Configuration

Output Setting

	Enable	Name	Output Mode	Pulse Mode Delay Time(1 - 60)
1	<input checked="" type="checkbox"/>	Output 1	1) Normal Mode N/O ▾	1 Sec
2	<input checked="" type="checkbox"/>	Output 2	1) Normal Mode N/O ▾	1 Sec
3	<input checked="" type="checkbox"/>	Output 3	1) Normal Mode N/O ▾	1 Sec
4	<input checked="" type="checkbox"/>	Output 4	1) Normal Mode N/O ▾	1 Sec

- **Enable:** Select to enable this Output function to be used by GV-I/O Box 4E.
- **Name:** Edit the name of the Output.
- **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 (1-60)** field.
- **Pulse Mode Delay Time (1-60):** Type the time in seconds for the pulse delay time between 1 and 60 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.

 <ul style="list-style-type: none"> • Network Setting • Other Setting • Input Setting • Output Setting • In/Out Monitor • Firmware Update • Account Setting 	Status Monitor	
	Input Status	
	Input 01	OFF
	Input 02	OFF
	Input 03	OFF
	Input 04	OFF
	Output Status	
	ALL ON	<input type="button" value="ALLON"/>
	ALL OFF	<input type="button" value="ALLOFF"/>
	Output 01	<input type="text" value="OFF"/> ▾
Output 02	<input type="text" value="OFF"/> ▾	
Output 03	<input type="text" value="OFF"/> ▾	
Output 04	<input type="text" value="OFF"/> ▾	
<input type="button" value="Submit"/> <input type="button" value="Cancel"/>		

- **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.

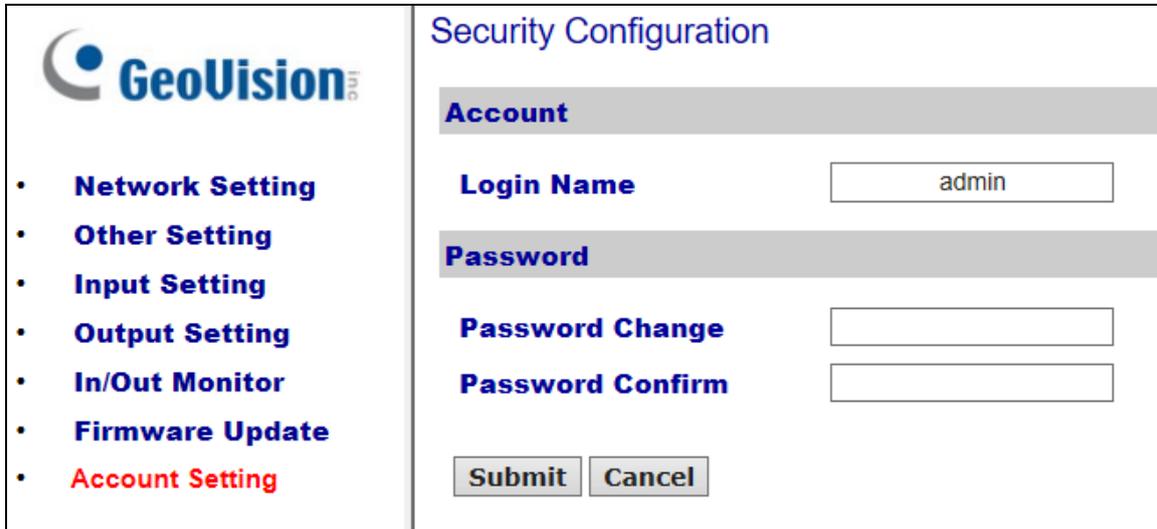
2. Click the **Browse...** button to open the firmware file (*.bin)
3. Click the **Upload** button. This update procedure may take 60 seconds to complete.
4. When the Update is complete, a dialog box appears and asks you to reboot the system.
5. Click **OK**. GV-I/O Box 4E starts the Reboot operation.

Note: It is required to reboot GV-I/O Box 4E after updating the firmware. Without rebooting, the firmware update is not complete.



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 a web interface for "Security Configuration". 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**

The main content area is titled "Security Configuration" and contains the following sections:

- Account**: A form with a "Login Name" field containing the text "admin".
- Password**: Two empty text input fields labeled "Password Change" and "Password Confirm".
- Buttons: "Submit" and "Cancel".