GV-I/O Box 4E

Contents

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.

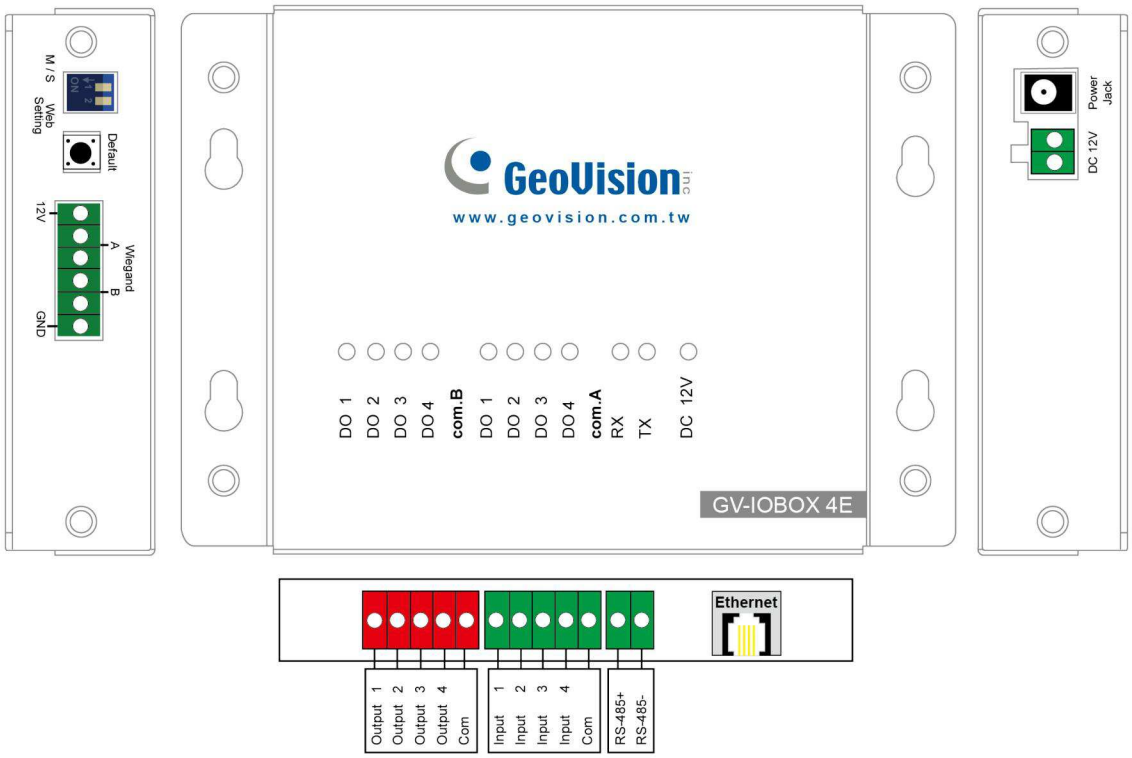
1.2 System Requirements

- 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

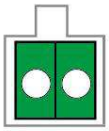
- GV-I/O Box 4E
- Warranty Card
- Download Guide

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.

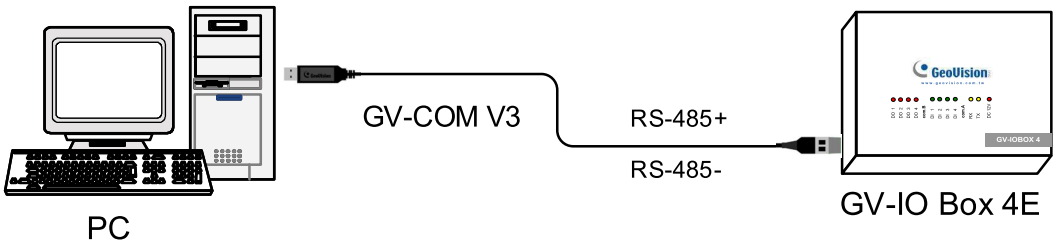
1.5 Connecting to PC

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.*

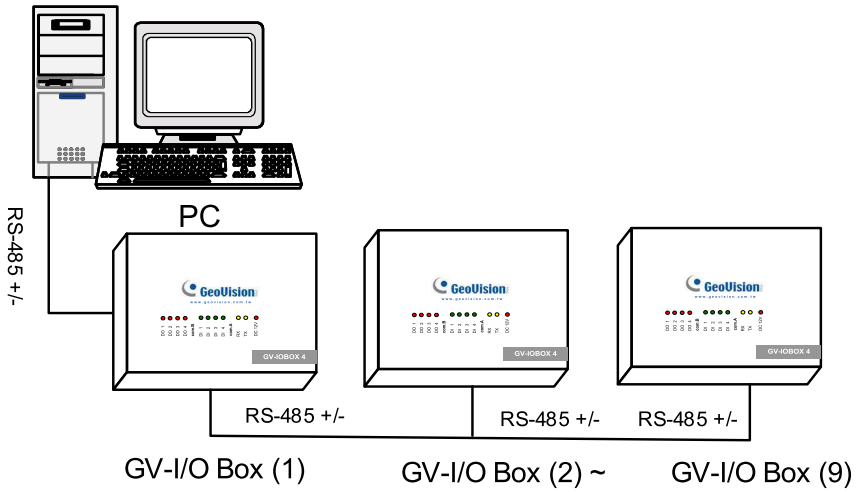
1.5.1 RS-485 Wiring

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.

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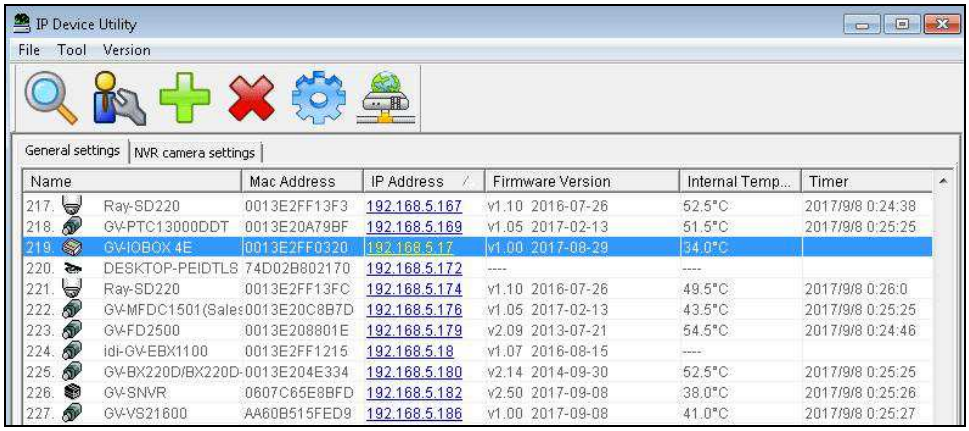
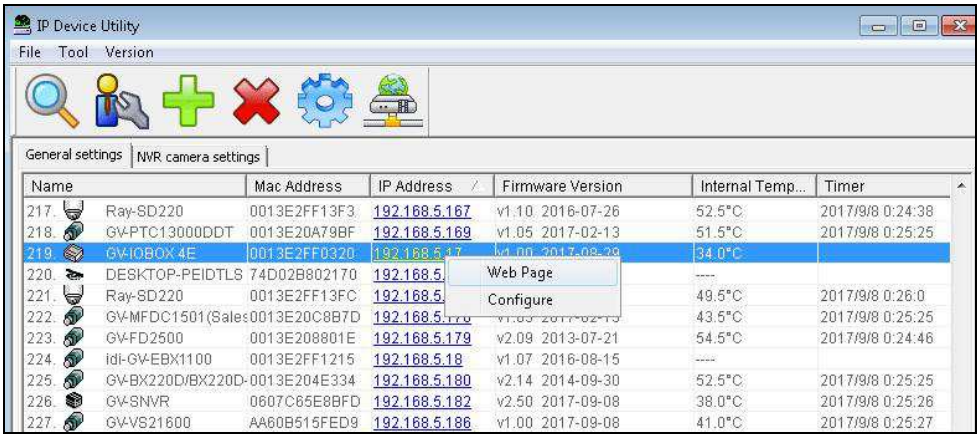
2. On the GV-IP Utility window, click the  button to search for the IP devices connected in the same LAN. Click the **Name** or **Mac Address** column to sort.



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



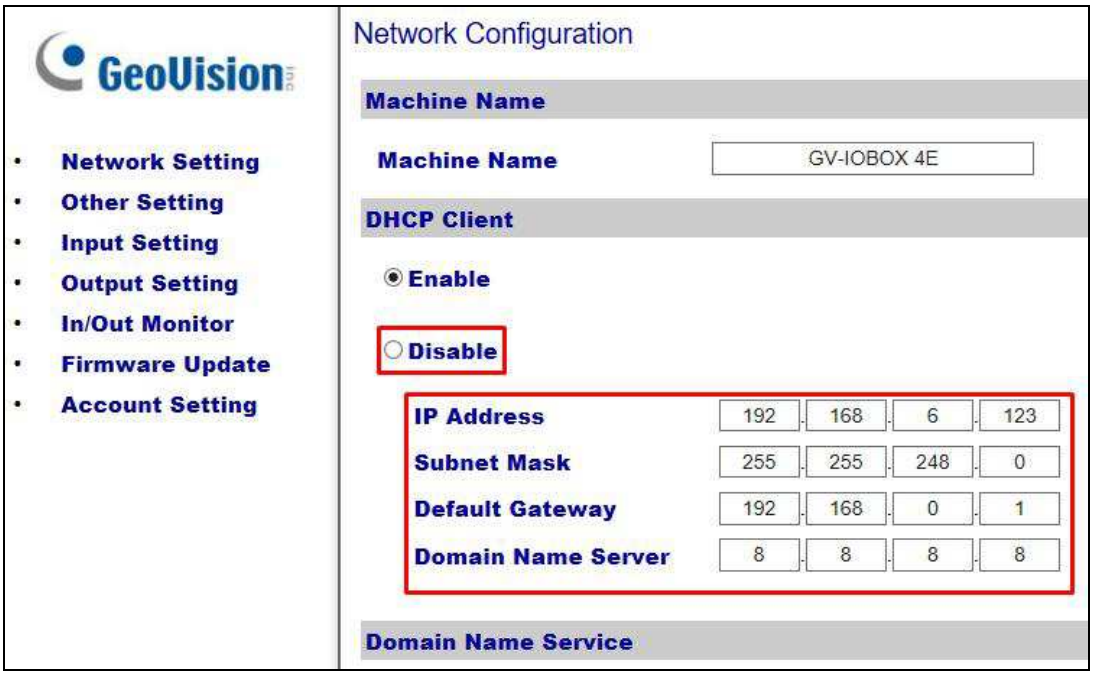
4. The login page appears.

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.

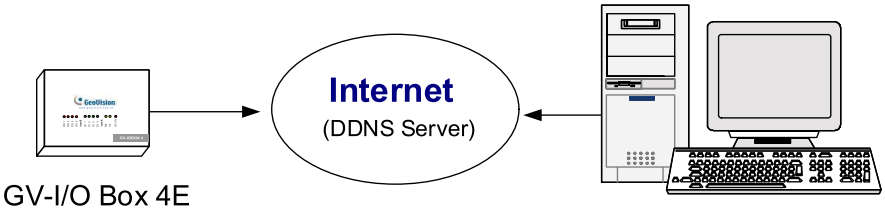


3. In the **Machine Name** field, edit the name of the GV-I/O Box 4E.
4. Click **Disable**. Type the static IP address information, including IP Address, Subnet Mask, Default Gateway and Domain Name Server.
5. Click **Submit**. When the setting is complete, the Status field will indicate *Register Success*.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

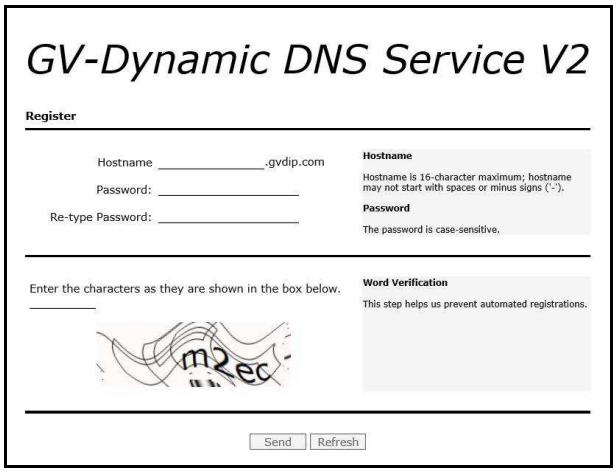
To enable the DDNS function, first you should apply for a domain name from the **GeoVision DDNS Server**, the DDNS service provider's website. See the following instructions to register at GeoVision DDNS Server.



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.



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.

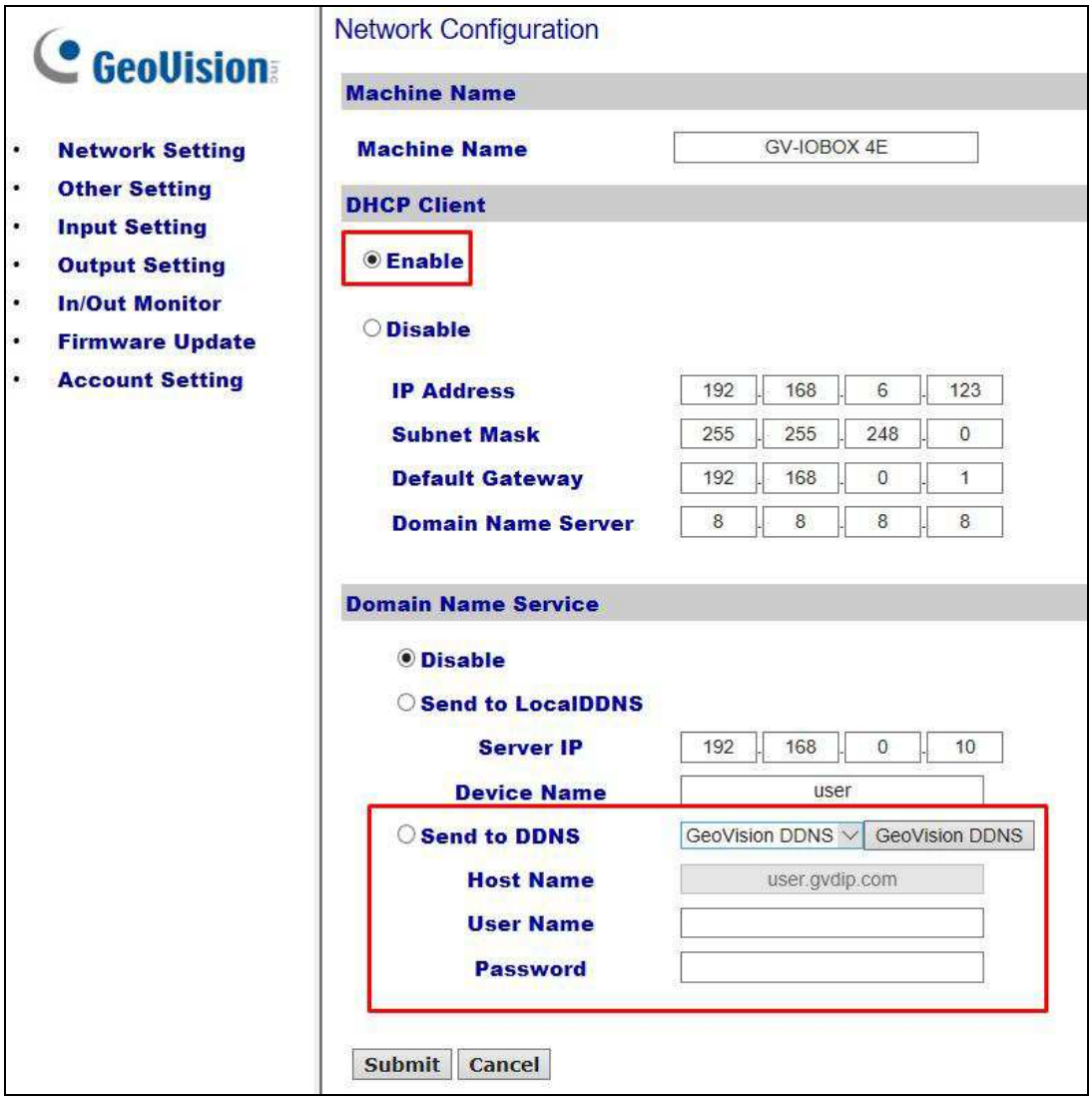
Note: The registered username will be invalid when it is not used for three months.

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**.

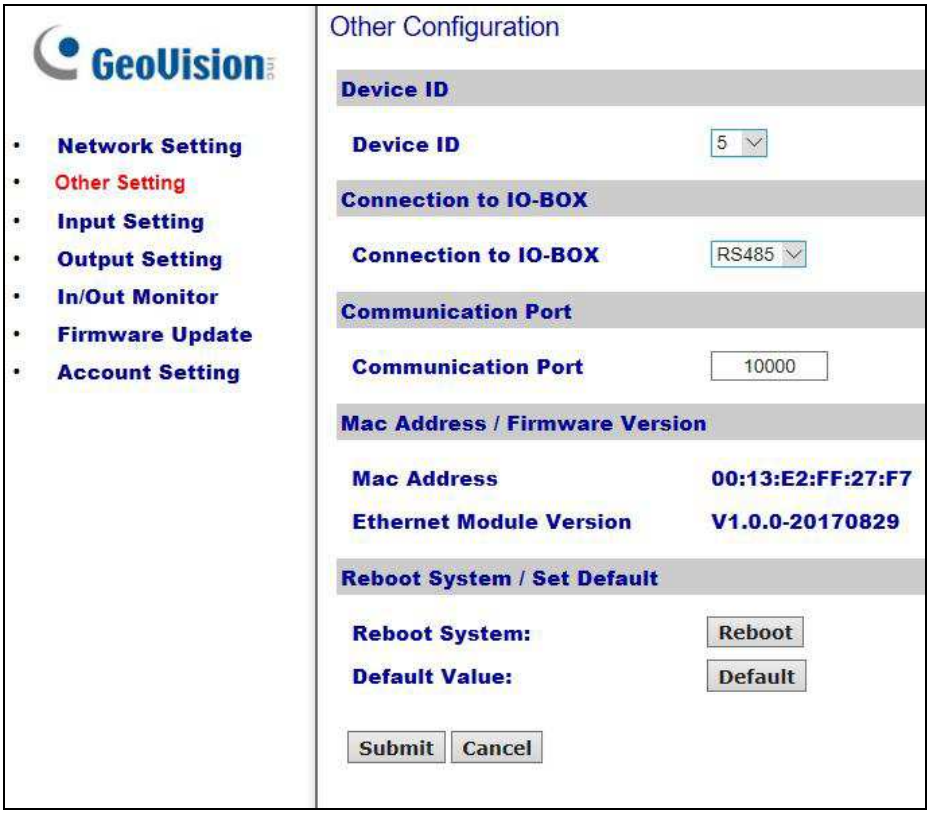
3. Type **Host Name**, **User Name** and **Password** that are registered on the DDNS Server. The system will automatically bring up the Host Name.



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.



[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.

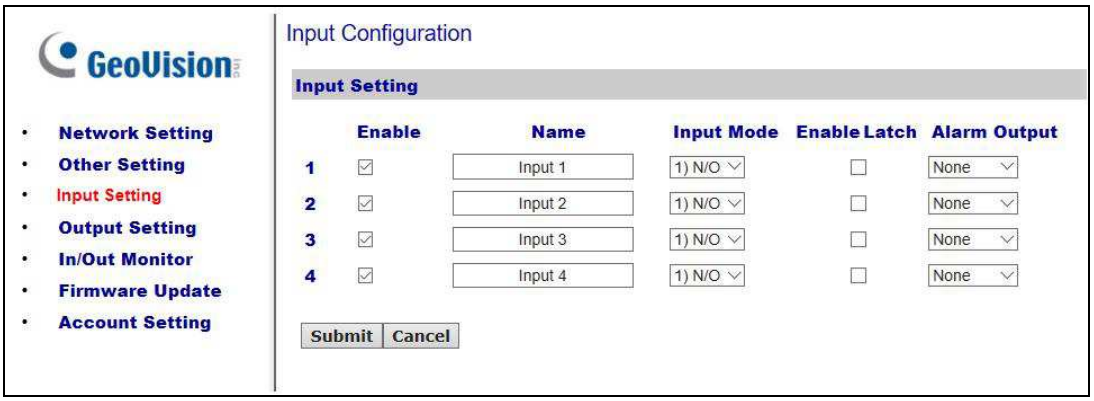
[Reboot System/Set Default]

- **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.

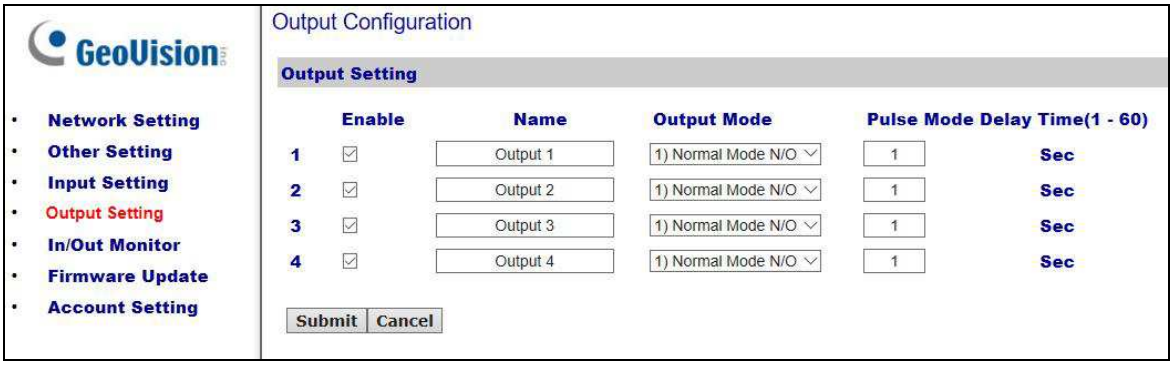


- **Enable:** Select to enable this Input function to be used by GV-I/O Box 4E.
- **Name:** Edit the name of the Input.
- **Input Mode:** Configure the input to **NC** (normally closed) or **NO** (normally open) mode.
- **Enable Latch:** Instead of a constant output of N/O or N/C, this option provides 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.

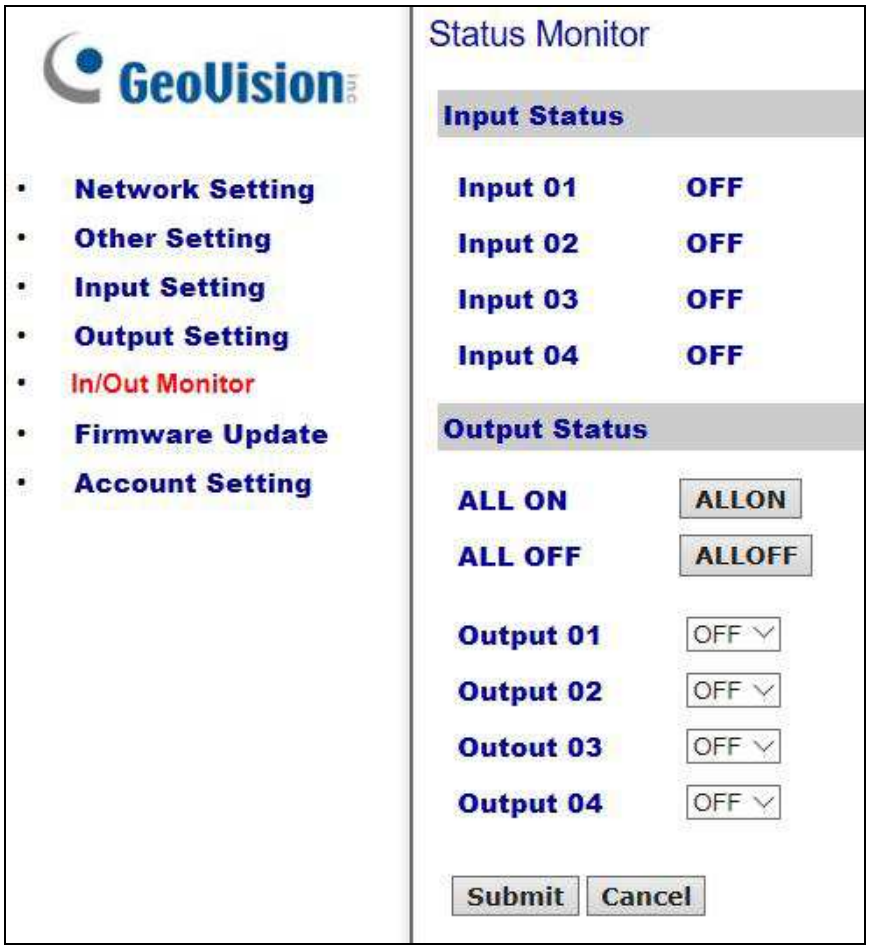


- **Enable:** Select to enable this Output function to be used by GV-I/O Box 4E.
- **Name:** Edit the name of the Output.
- **Output Mode:** Configure the input to **NC** (normally closed) or **NO** (normally open) mode.
  - **Normal Mode (N/O and N/C):** Output continues to be triggered until the source 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.



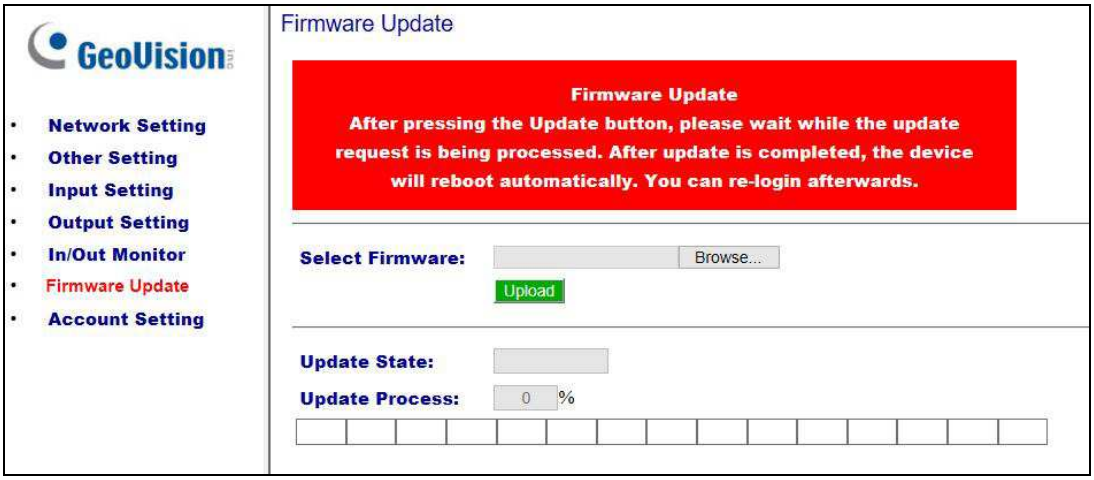
- **Input Status:** Indicates the current status of the 4 inputs, whether it is **On** (triggered) or **OFF** (no input).
- **Output Status:** Indicates the current status of the 4 outputs, whether it is **ON** (triggered) or **Off** (no output). Click the **ALL ON** button to force all 4 outputs to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