GV-I/O Box 4 Ports V1.2

A small but a capable device, the GV-I/O Box 4 Ports V1.2 provides 4 inputs and 4 relay outputs. It supports both DC and AC output voltages, and provides a USB port for PC connection.

Key Features

- 4 inputs and 4 outputs are provided.
- Up to 9 pieces of GV-I/O Box 4/8/16 Ports can be chained together.
- A USB port is provided for PC connection, and it is only used for 30 DC output voltage.

System Requirements

The GV-I/O Box is listed as **XR21B1411 USB UART** under Windows Device Manager, GV-System version 8.5.7 or later is required.

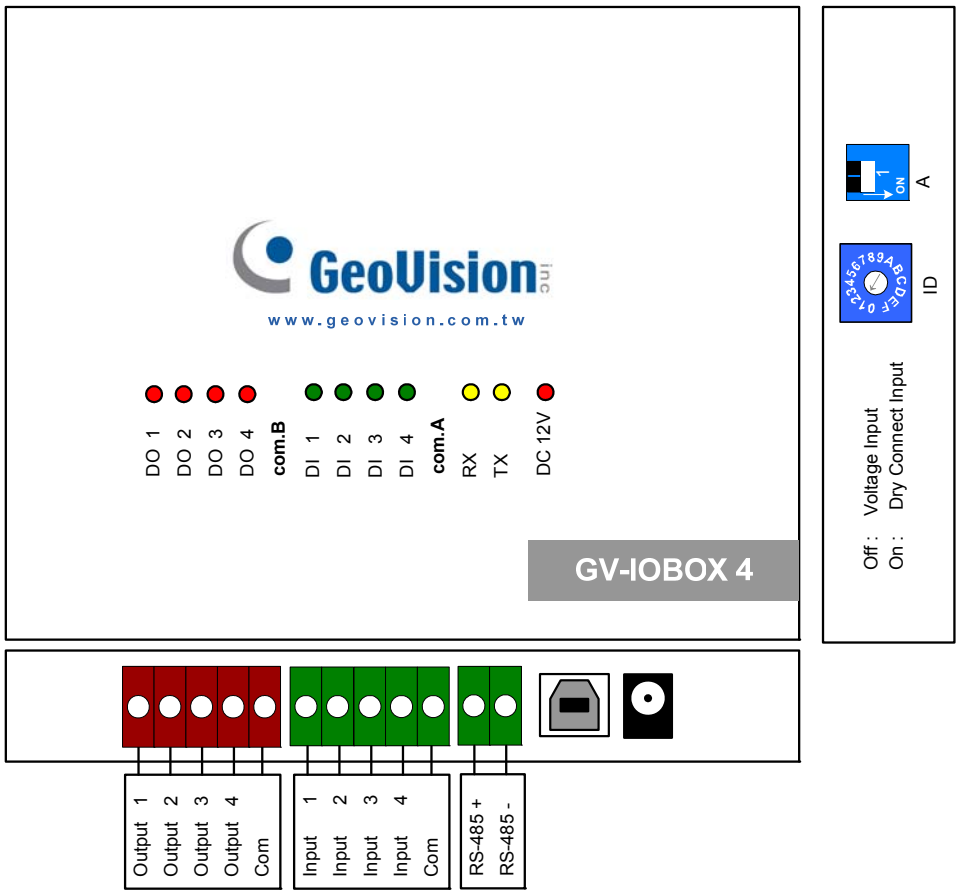
To see how to check the device name under Windows Device Manager, refer to *Installing USB Driver* later in this Installation Guide.

Packing List

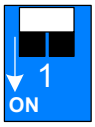
1. GV-I/O Box 4 Ports V1.2 x 1
2. USB Cable (Type A to B) x 1
3. Terminal Resistor x 1
4. Power Adapter DC 12V x 1
5. Software DVD x 1

Note: The GV-I/O Box 4 Ports V1.2 does not provide the option of an Ethernet module.

Overview

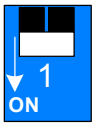


DIP Switch



A
Wet Contact

To change the inputs to different kind of contact, push the switch upward.



A
Dry Contact

To change the inputs to different kind of contact, push the switch downward.

Note: The RS-485 connectors do not have the conversion function from RS-485 to RS-232. It will not work if you connect RS-485 devices, such as PTZ camera, to the connectors.

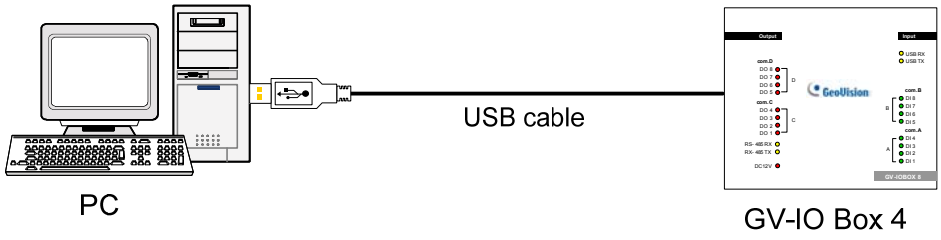
Connections to PC

There are two ways to connect a GV-I/O Box 4 Ports V1.2 to the PC. Only one of the two methods can be used at a time.

(1) **USB cable:** Use the USB cable to connect the PC.

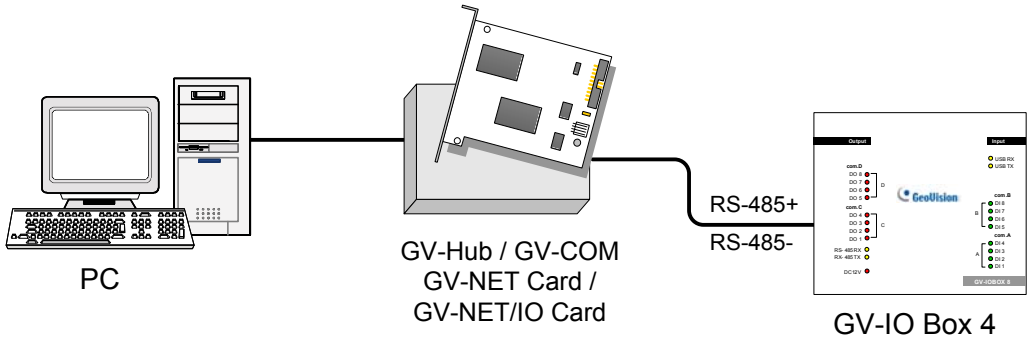
(2) **RS-485 wiring:** Through the option of GV-Hub, GV-COM, GV-NET Card or GV-NET/IO Card, use the RS-485 connectors to connect the PC. RS-485 connection is suitable for long distance wiring up to 600 m / 1968.5 ft.

1. Use the USB cable to connect one GV-I/O Box 4 Ports V1.2 to the PC. **(Allowed for DC Output Voltage only)**



Note: It is required to install the USB driver. See *Installing USB Driver later in this Installation Guide.*

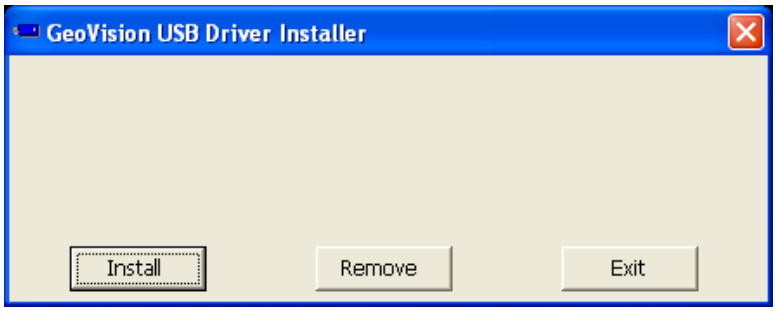
2. Use the RS-485 connectors to connect one GV-I/O Box 4 Ports V1.2 with the PC. **(Allowed for AC/DC Output Voltage)**



Installing USB Driver

To use the USB function, it is required to install the driver on the PC. Follow these steps to install the driver:

1. Insert the software DVD. It will run automatically and pop up a window.
2. Select **Install or Remove GeoVision GV-Series Driver**, and then click **Install GeoVision USB Devices Driver**. This dialog box appears.



3. Click **Install** to install the drivers. When the installation is complete, this message will appear: *Install done!*
4. Click **Exit** to close the dialog box and restart the PC.

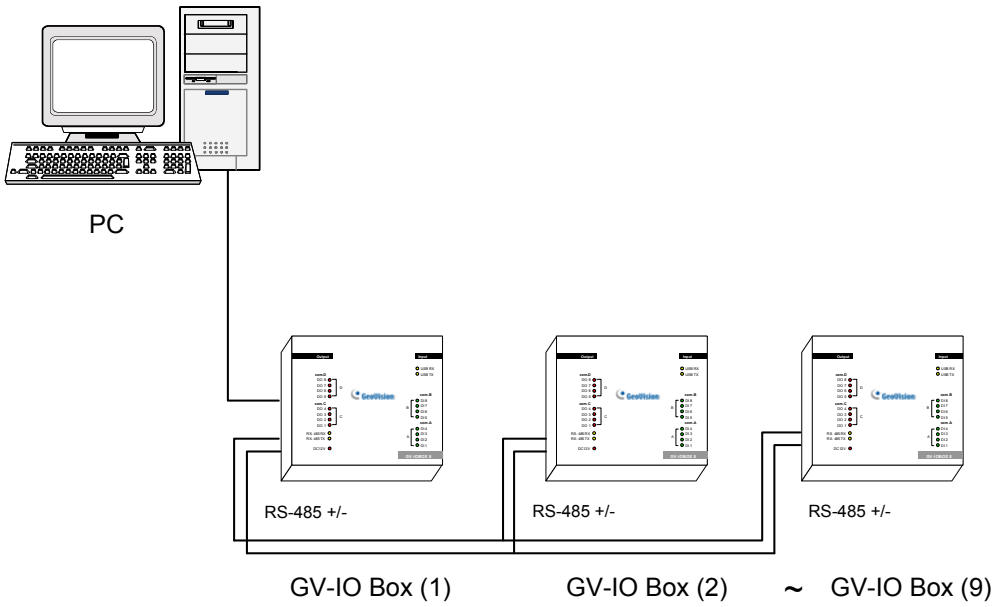
To verify the drivers are installed correctly, go to Windows **Device Manager** after restarting the PC. Expanding the **Ports** field, you should see **XR21B1411 USB UART**. The COM number in the parenthesis indicates the COM port currently in use.

Note: If you unplug the GV-I/O Box 4 Ports V1.2 from the PC and connect another GV-I/O Box to the same USB port, the COM port may still be changed. Access the Windows **Device Manager** again to look up the new COM port number.

Assigning Addresses to GV-I/O Box

You can connect any GV-IO Box of 4, 8 and 16 ports together through RS-485 wiring. Up to 9 pieces of GV-I/O Box can be chained together to expand the I/O capacity. Use the ID switch to assign addresses 1~ 9 to each GV-I/O Box.

For **GV-I/O Box 4 Ports V1.2** as the first device to the PC, you need the optional RS-485 converter for connection. See the point 2 figure of the previous section *Connections to PC*.



Note: The maximum distance for RS-485 connection is up to 600 m / 1968.5 ft.

ID Switch

ID

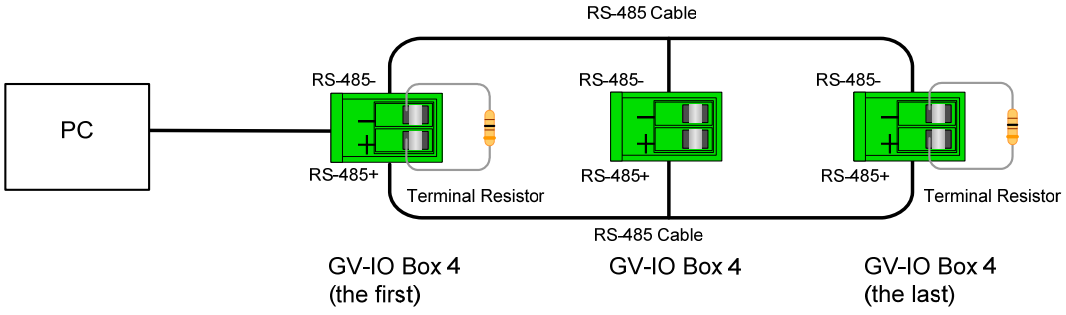
1. Address 0 and A to F are NOT functional.
2. Assign the addresses when the power is off.
3. If you want to change the assigned address of the connected GV-I/O Box, set the switch to the new address, and then re-plug the power adaptor.

Extending Transmission over the Distance

When the transmission signals between the RS-485 communications become weak over the distance, use the supplied Terminal Resistor to maintain the signals. Three conditions below illustrate how the Terminal Resistors should be inserted.

1. **Multiple pieces of GV-I/O Box are connected with the PC through one single RS-485 cable.**

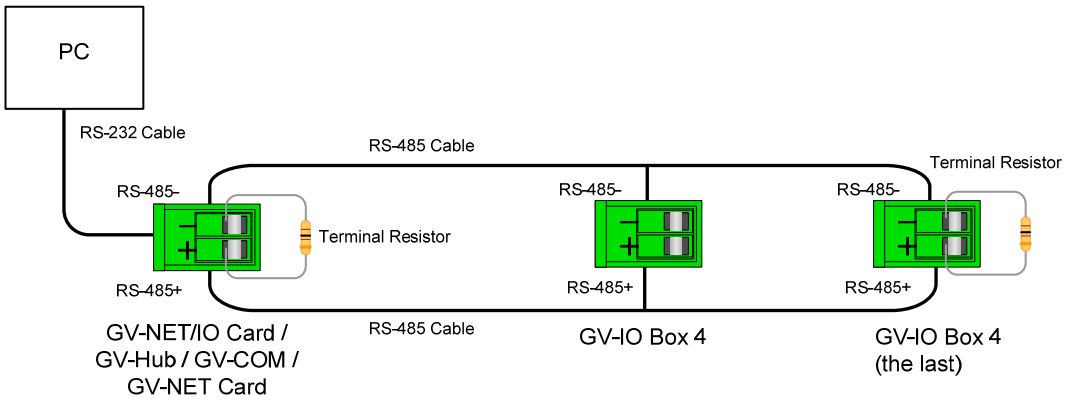
   When you connect one GV-I/O Box to another GV-I/O Box or more, only insert the Terminal Resistors in the first and last connected pieces of GV-I/O Box. For the following diagram, we connect multiple **GV-I/O Box 4 Ports V1.2** as an example.



Note: If you connect **GV-IO Box 4 Ports V1.2** as the first device to the PC, do not use the USB cable. Instead, use the RS-485 cable and you need the optional device, GV-Hub, GV-COM, GV-NET Card or GV-NET/IO, to connect the RS-485 device to the PC.

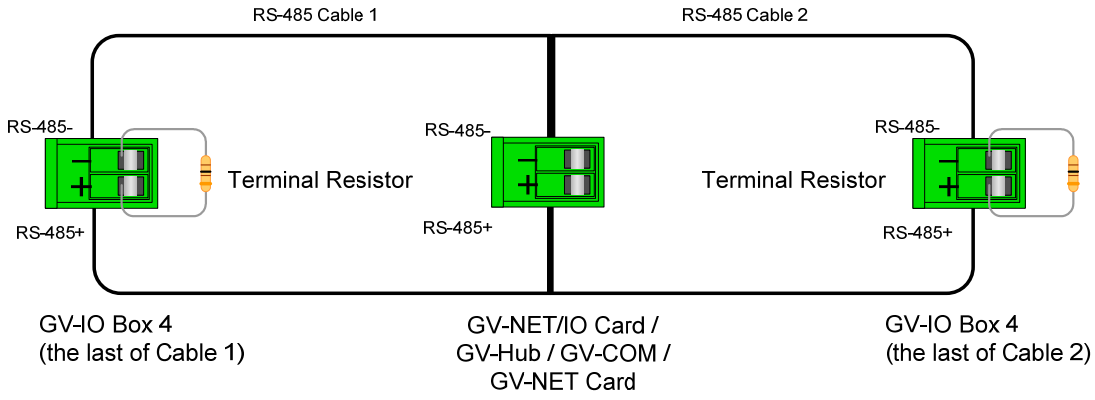
2. **Multiple pieces of GV-I/O Box are connected with the PC through a RS-485 converter.**

   After you connect multiple pieces of GV-I/O Box with the PC through RS-485 converter, such as GV-NET/IO Card and GV-Hub, insert the Terminal Resistors in the converter and the last connected GV-I/O Box. For the following diagram, we connect multiple **GV-I/O Box 4 Ports V1.2** as an example.



3. **Multiple pieces of GV-I/O Box are connected with the PC through separate RS-485 cables.**

   After you connect multiple pieces of GV-I/O Box with the PC through separate RS-485 cables, insert the Terminal Resistors in the connected piece of GV-I/O Box at the end of each cable. For the following diagram, we connect multiple **GV-I/O Box 4 Ports V1.2** as an example.



Specifications

OS	**32-bit**	Windows XP / Vista / 7 / 8 / Server 2008	
	64-bit	Windows 7 / 8 / Server 2008 R2 / Server 2012	
Input	**Input**	4	
	Input Signal	Dry Contact	
		Wet Contact, 9-30V AC / DC	
Output	**Relay Output**	4	
	Relay Status	Normal Open	
	Relay Capacitance	USB Connection	30V DC, 3A
		RS-485 Connection	125 / 250V AC, 3A 30V DC, 3A
DC IN		DC 12V, 1A	
Address		0-9, A-F	
Terminal Resistance		120Ω	
Operating Temperature		0˚ C ~50˚ C / 32˚F ~122 ˚F	
Humidity		5% ~ 95% (Non-Condensing)	
Dimensions (W x H x D)		111.4 x 27.5 x 101 mm / 4.39 x 1.08 x 3.98 in	