GV-IO Box 4 Ports

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

1. Key Features

- 4 inputs and 4 outputs are provided.
- Up to 9 pieces of GV-IO Box 4 / 8 / 16 ports can be chained together.
- A USB port is provided for PC connection (max. 30V DC, 3A output).

2. System Requirements

The GV-IO 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.

3. Compatible Software

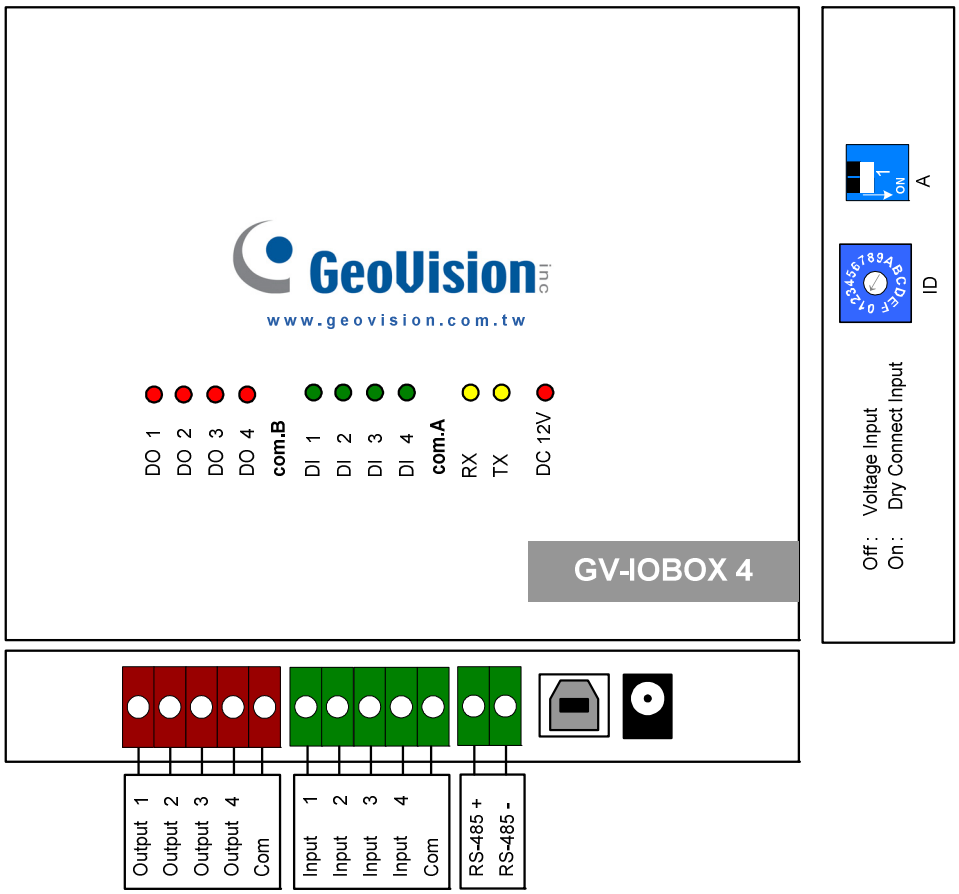
GV-IO Box works with the software listed below:

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

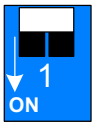
4. Packing List

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

5. Overview

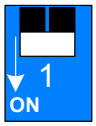


6. DIP Switch



A
Wet Contact

To change the inputs to wet contact, push the switch upward.



A
Dry Contact

To change the inputs to dry contact, push the switch downward.

Note:

1. The RS-485 connectors do not support the conversion function from RS-485 to RS-232. Do not connect RS-485 devices, such as PTZ camera, to the connectors.
2. To add a **GV-IO Box 4 Ports** to GV-DVR/NVR version 8.2 or later, select **GVIO-USB (4)** from the Device drop-down list in the System Configure dialog box.

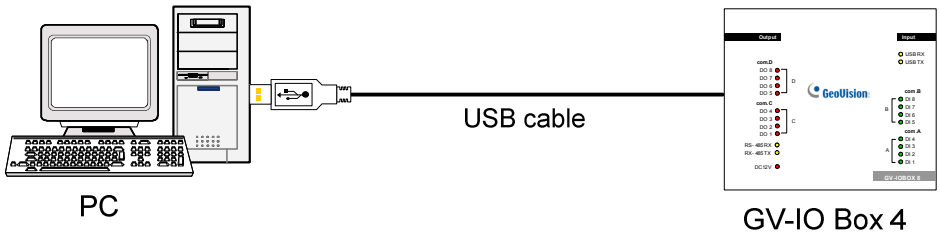
7. Connections to PC

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

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

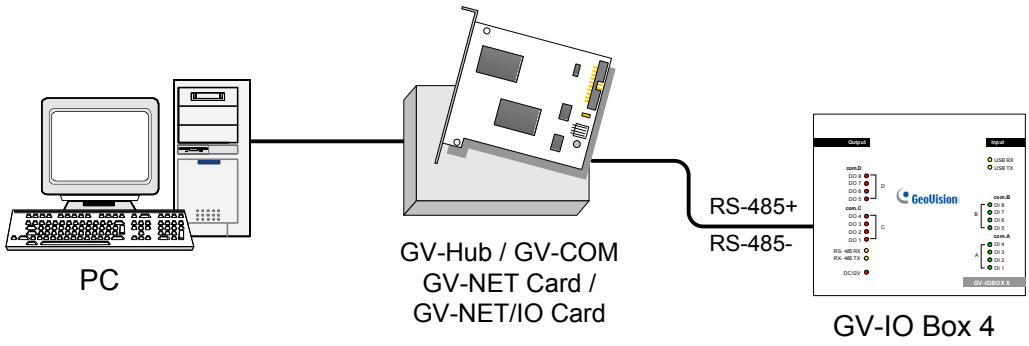
(2) **RS-485 wiring:** Through the option of GV-Hub, GV-COM, GV-NET Card or GV-NET/IO Card, use the RS-485 connectors to connect to a PC. RS-485 connection is suitable for longer distance wiring of up to 600 m / 1968.5 ft.

1. Use the USB cable to connect GV-IO Box to a 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.*

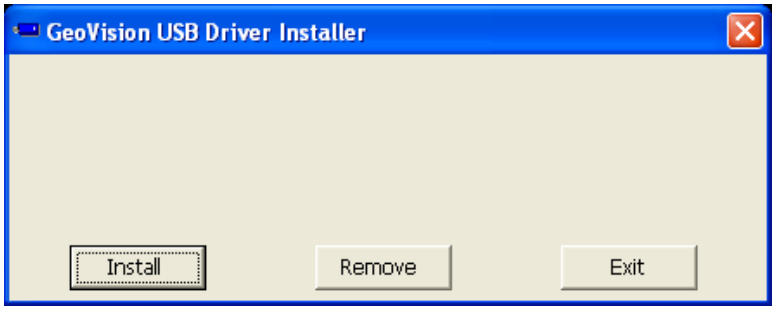
2. Use the RS-485 connectors to connect GV-IO Box to a PC. **(Allowed for AC/DC Output Voltage)**



8. 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.

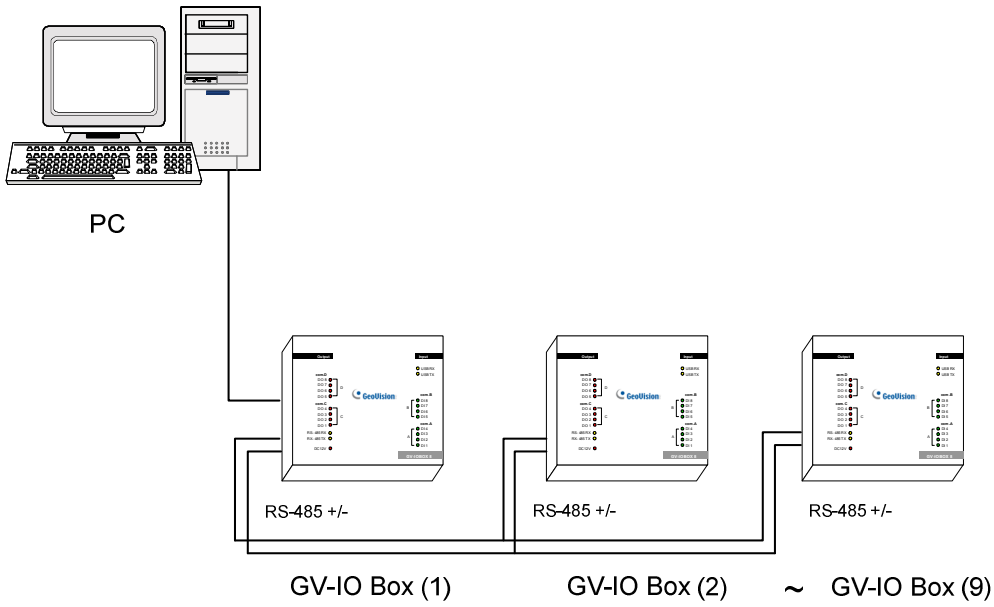
To verify the drivers are installed correctly, go to Windows **Device Manager** after restarting the PC. Expanding the **Ports** field, you should see **XR21B1411 USB UART**. The COM number in the parenthesis indicates the COM port currently in use.



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

9. Assigning Addresses to GV-IO 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-IO Box can be chained together to expand the IO capacity. Use the ID switch to assign addresses 1~ 9 to each GV-IO Box.



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

ID Switch



ID

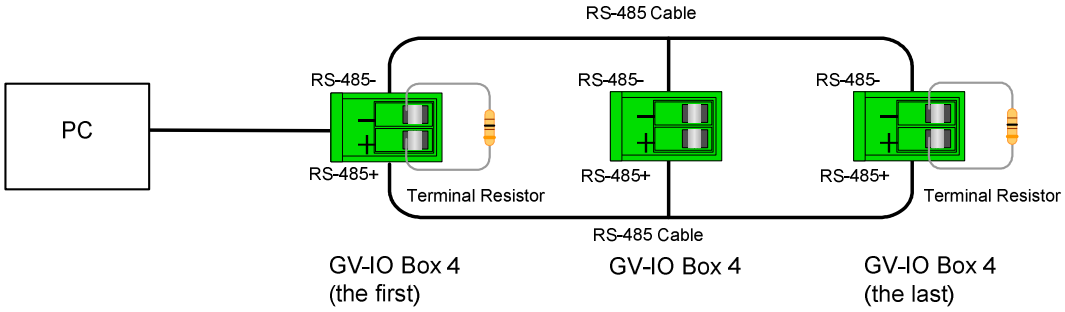
1. Address 0 and A to F are NOT functional.
2. Assign the addresses when the power is off.
3. If you want to change the assigned address of the connected GV-IO Box, set the switch to the new address, and then re-plug the power adaptor.

10. 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-IO Box are connected to a PC through one single RS-485 cable.**

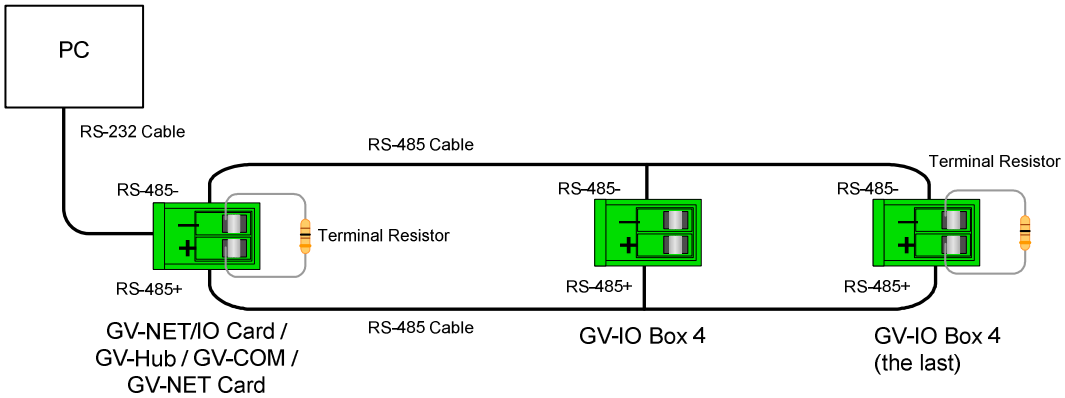
   When you connect one GV-IO Box to another GV-IO Box or more, only insert the Terminal Resistors in the first and last connected pieces of GV-IO Box. For the following diagram, we connect multiple **GV-IO Box 4 Ports** as an example.



Note: If you connect **GV-IO Box 4 Ports** 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.

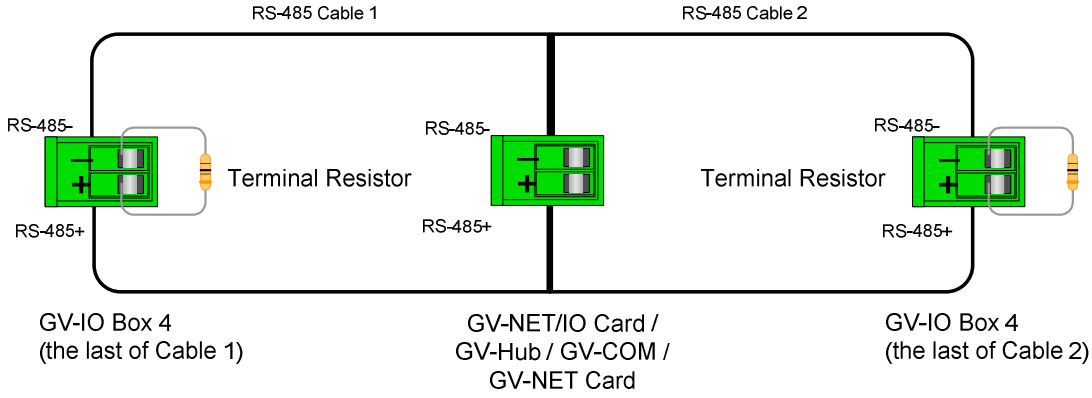
2. **Multiple pieces of GV-IO Box are connected to a PC through a RS-485 converter.**

   After you connect multiple pieces of GV-IO Box to a 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-IO Box. For the following diagram, we connect multiple **GV-IO Box 4 Ports** as an example.



3. **Multiple pieces of GV-IO Box are connected to a PC through separate RS-485 cables.**

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



11. Specifications

For details, see Datasheet.