User's Manual

SMARTDAC+.

SMARTDAC+ STANDARD
IP Address Configurator
User's Manual

vigilantplant.

YOKOGAWA ◆
Yokogawa Electric Corporation

Introduction

This manual explains how to use SMARTDAC+ STANDARD IP Address Configurator. To ensure correct use, please read this manual thoroughly before beginning operation.

Notes

- The contents of this manual are subject to change without prior notice as a result of continuing improvements to the software's performance and functions.
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Revisions

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Software product: SMARTDAC+ STANDARD IP Address Configurator

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End of document

How to Use This Manual

Structure of the Manual

This manual contains the following four chapters.

Chapter	Title and Description
1	Before Using the Product
	Provides an overview of the IP Address Configurator and the PC system requirements for using the software and describes how to install, start, and close the software.
2	Setting the IP Address
	Describes the parts of the window and how to use them and how to change the IP address.
--	Appendix
	Describes how to set and clear a firewall, using Windows 7 as an example.

Scope of This Manual

This manual does not explain the basic operations of your PC's operating system. For this information, read the Windows user's guide or related materials.

Conventions Used in This Manual

Unit	
K	Denotes 1024. Example: 768K (file size)
k	Denotes 1000.

Notes	
⚠	*Improper handling or use can lead to injury to the user or damage to the instrument.* This symbol appears on the instrument to indicate that the user must refer to the user's manual for special instructions. The same symbol appears in the corresponding place in the user's manual to identify those instructions. In the manual, the symbol is used in conjunction with the word "WARNING" or "CAUTION."
WARNING	Calls attention to actions or conditions that could cause serious or fatal injury to the user, and precautions that can be taken to prevent such occurrences.
CAUTION	Calls attention to actions or conditions that could cause light injury to the user or cause damage to the instrument or user's data, and precautions that can be taken to prevent such occurrences.
Note	Calls attention to information that is important for the proper operation of the instrument.

Reference Item	
▶	Reference to related operation or explanation is indicated after this mark.
	Example: ▶ section 4.1

Conventions Used in the Procedural Explanations	
Bold characters	Indicates character strings that appear on the screen.
	Example: **Volt**
Procedure	Carry out the procedure according to the step numbers. All procedures are written under the assumption that you are starting operation at the beginning of the procedure, so you may not need to carry out all the steps in a procedure when you are changing the settings.
Explanation	The explanation section describes limitations and related information about the operation.

Images

The images used in this manual may differ from those that actually appear in the software. Such differences do not affect the procedural explanation.

Products That This Manual Covers

Product	Version
Data Acquisition Module GM10	Release number 1. Up to firmware version R2.02.xx. In the explanations in this manual, these are referred to as the "main unit" or "GM."
SMARTDAC+ STANDARD IP Address Configurator	Up to R.2.02.xx

Revision History

Edition	Software Version	Explanation
1	R2.02	New edition
2	Same as above	Added notes for using the security function (communication login) on the GM10.

Downloading the Latest Software and Manuals

Download the latest version of the IP Address Configurator from the following URL:
www.smartdacplus.com/software/en/

Download the latest manuals of the Hardware configurator, and the related manuals from the following URL: www.smartdacplus.com/manual/en/

Related Manuals

Manual Name	Manual No.
Data Acquisition System GM First Step Guide	IM 04L55B01-02EN
Data Acquisition System GM User's Manual	IM 04L55B01-01EN
SMARTDAC+ STANDARD Hardware Configurator User's Manual	IM 04L61B01-02EN

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Contents

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1.1 Overview of IP Address Configurator

1.1.1 IP Address Configurator Features

SMARTDAC+ STANDARD IP Address Configurator is a PC software application for configuring the communication parameters of the GM10 Data Acquisition Module (hereafter referred to as the GM).

IP address setting

You can edit a GM's host name, IP address, DNS server, domain name, domain suffix, and so on as well as register the host name to a DNS server.

GM searching

GM searching

Device call-up

You can send commands to GMs shown in the list. You can check the response by looking at the LED blinking on the GMs.

1.1.2 Installation and Version Updating

Download the latest installer from YOKOGAWA's website (**www.smartdacplus/software/ en/**) to install and update the software: From the Help menu, you can view the software version information and access the link to the website.

Note

- Close all other software applications before installing this software.
- To reinstall the software, uninstall the current software first.

Procedure

1 Double-click the downloaded file to extract the files.

2 In the extracted folder, right-click Install.exe, and click **Run as administrator**.

3 The installation wizard starts. Continue to follow the instructions on the screen to install the software.

4 When the installation is complete, click **Finish**.

SMARTDAC+STANDARD > IP Address Configurator will be registered under All Programs in the Windows Start menu.

1.1.3   Starting and Closing IP Address Configurator

Starting the Software

On the Start menu, click **All Programs**, **SMARTDAC+ STANDARD**, and **IP Address Configurator**.

The start window appears.
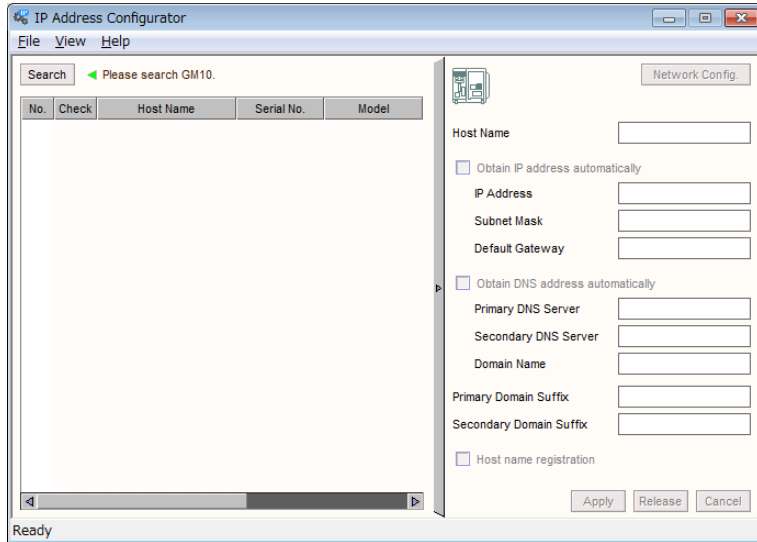
Names of the parts of the screen and how to use them: ▶ **section 2.1**

Closing the Software

On the File menu, click Exit Application. Or click the close button ▣ in the upper right of the window.

1.2 PC System Requirements

1.2.1 Hardware

PC

A PC running Windows Vista, Windows 7 or Windows 8.1.

CPU and Main Memory

PC Configuration	OS	Requirements
CPU	Windows Vista/7/8.1 (32-bit edition)	Intel Pentium 4, 3 GHz or faster x64 or x86 processor.
	Windows 7/8.1 (64-bit edition)	Intel Pentium 4, 3 GHz or faster x64 processor.
Memory	Common	2GB or more.
Hard Disk		Free space of at least 100 MB (depending on the amount of data, you may need more disk space). NTFS recommended.
Mouse		A mouse compatible with the OS.
Display		A display that is compatible with the OS, that has a resolution of 1024×768 or higher, and that can show 65,536 colors (16-bit, high color) or more.
Communication port		Ethernet port compatible with the OS and TCP/IP protocol.
Printer		A printer compatible with your Windows system (a printer driver for the OS is required)

1.2.2 Operating System

OS	Edition
Windows Vista	Home Premium SP2 (excluding 64-bit editions)
	Business Edition SP2 (excluding 64-bit editions)
Windows 7	Home Premium SP1 (32- or 64-bit edition)
	Professional SP1 (32- or 64-bit edition)
Windows 8.1	Basic Edition (32- or 64-bit edition)
	Pro (32- or 64-bit edition)

1.2.3 Other Operating Conditions

To view the user's manual of this software, you need to use Adobe Reader 7 or later by Adobe Systems (the latest version is recommended).

1.2.4 Security Measures

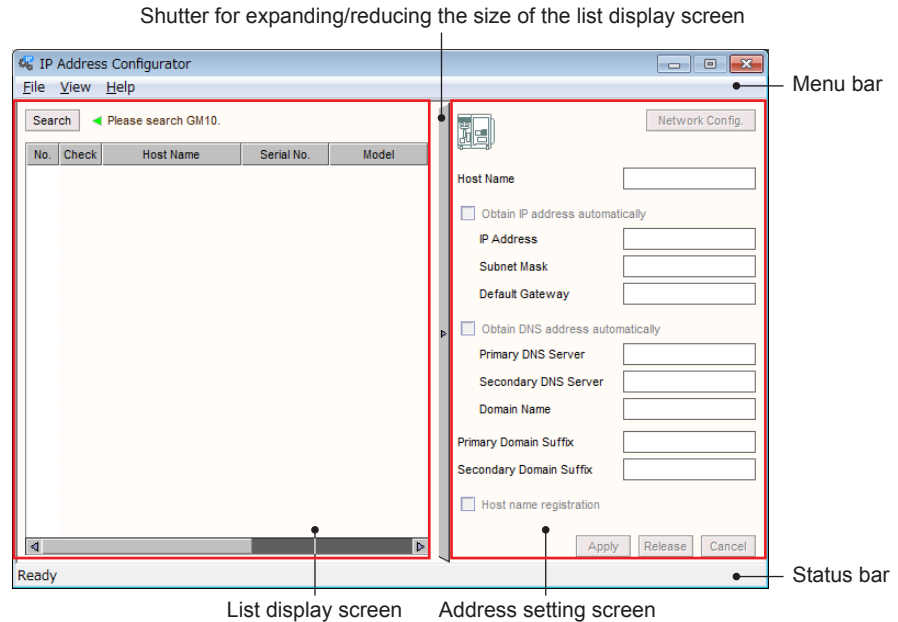To deal with security threats, we recommend that you take security measures.
- Apply restrictions to PC network connections.
  We recommend that you use an isolated network.
- Manage external media properly.
  Prevent malware intrusion through external media, unauthorized file operations on external media, and information leakage due to misplacement.
- Set a strong password and manage it properly.
  Use a password that is at least eight characters in length, and include three types of characters from uppercase letters, lowercase letters, numbers, and symbols. Change the password regularly.
- Install antivirus software.
  This software has been verified to work on a PC running McAfee VirusScan Enterprise Ver. 4.8.0.887.

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2.1 Names of the Parts of the Screen and How to Use Them

This section explains the window components. For the actual procedure to change the IP address, see section 2.2, **"Changing the IP Address"**

2.1.1 Start Window

Shutter for expanding/reducing the size of the list display screen

Menu bar

Status bar

List display screen   Address setting screen

Clicking the shutter for expanding/reducing the size of the list display screen (the bar in the center of the window) hides the Address setting screen and shows the List display screen in the entire window. Clicking it again returns the Address setting screen.

Menu Commands

Menu		Description
File	Exit	Closes the software.
View	Status Bar	Shows or hides the status bar.
Help	User's Manual	Displays the user's manual (this manual).
	About	Displays the version of the software in use.
	Update	A link to the website for downloading the latest version of the software.

2.1.2   List Display Screen

Click Search to search for GMs in the same network segment and display the list of search results. Click a No. cell to select the GM you want to configure.

Search button

No.

Shutter for expanding/ reducing the size of the list display screen
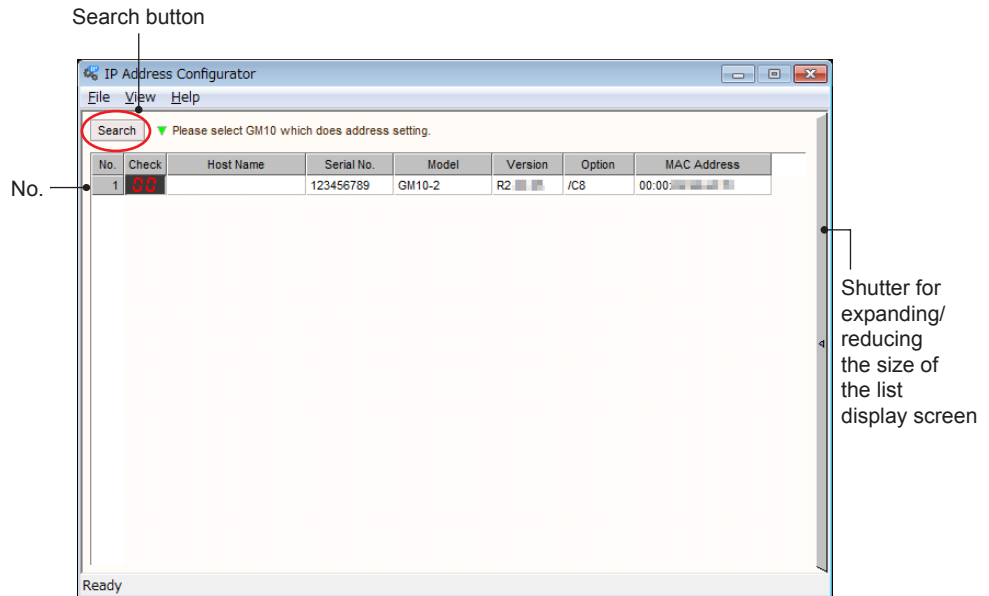
GM Information Displayed in the List

Item	Description
No.	1 to 255 numbers are assigned in retrieved order.
Check	If this button is clicked, the 7-segment LED on the main unit of the corresponding GM10 displays --CALL--.
Host Name	The host name is displayed if it is already registered.
Serial No.	The instrument number marked on the name plate of the main module.
Model	GM10-1 or GM10-2 is displayed.
Version	GM10 firmware version.
Option	GM10 option code. See the table below for the description.
MAC Address	The MAC address marked on the name plate of the main module.

Option Display and Description

Option	Description	GM Firmware Version and Availability
/C3	RS-422/485	R2.02.01 or later
/C8	Bluetooth	R2.02.01 or later
/MT	Mathematical function (with report function)	R2.02.01 or later
/MC	Communication channel function	R2.02.01 or later
/E1	EtherNet/IP communication	R2.02.01 or later
/E2	WT communicaton	R2.02.01 or later
/LG	Log scale	R2.02.01 or later
/AS	Advanced security function (Part 11)	R2.03.01 or later

2.1.3   Address Setting Screen

If the check box is selected, the items that can and cannot be set change.
Dimmed setting items cannot be changed.
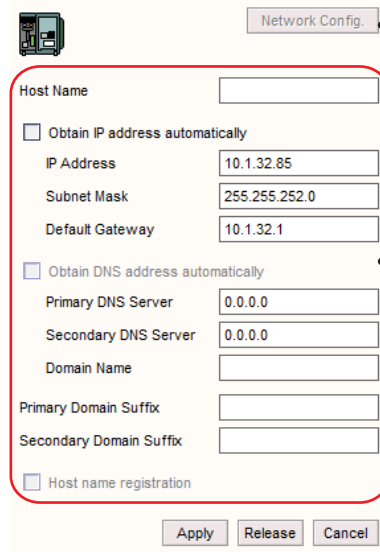
Network Config.
When you select a GM in the list,
this button becomes available.

Click Network Config. to allow the settings
of the GM selected in the list to be edited.

Cancel
Does not applies the changes,
and returns to the condition before editing.

Release
Releases the GM you selected
and the IP address obtained from the DHCP server.
GMs are searched for again.

Apply
Applies the edited settings to the GM.
GMs are searched for again.

Items on Address Setting Screen

Item	Description
Host Name	Set the host name. Up to 64 alphanumeric characters can be entered.
Obtain IP address automatically	Select the check box to automatically obtain the IP address from the DHCP server. To set the IP address manually, do not select the check box. Enter the IP address, subnet mask, and default gateway. Do not select the check box when connecting to the PC locally.
IP Address	Enter the IP address to assign to the GM. The default value is 0.0.0.0.
Subnet Mask	Enter the mask value used when determining the subnet network address from the IP address. The default value is 0.0.0.0.
Default Gateway	Set the IP address of the gateway (default gateway) used to communicate with other networks. The default value is 0.0.0.0. When connecting to the PC locally in a one-to-one relationship, this value does not need to be changed. In this case, you do not have to set the default gateway on the PC.
Obtain DNS address automatically	Select the check box to automatically obtain the DNS server IP address and domain name from the DHCP server. To set the DNS information manually, do not select the check box. Enter the primary DNS server, secondary DNS server, and domain name.
Primary DNS Server Secondary DNS Server	You can specify two DNS servers. Be sure to set an IP address.
Domain Name	Specify the domain name that the device belongs to. Up to 64 alphanumeric characters can be entered.
Primary Domain Suffix Secondary Domain Suffix	Up to 64 alphanumeric characters can be entered. The domain suffix is a domain name that is supplemented automatically when the mail server and the like are set only with the host name.
Host Name registration	Select the check box to register host names to the DNS server. Dynamic DNS (DDNS), which automatically registers host names to the DNS server, will be enabled. However, this requires that the DNS server support DDNS.

Note

Consult your network administrator for details of each setting item.

2.2 Changing the IP Address

Before carrying out the procedure below, turn ON the power to the relevant GMs and connect the GMs to the network using Ethernet cables. When connecting the GMs to the network, make the connection after changing the factory default IP address. (See **2.2.1 Connecting the GM to a PC Locally (One-to-One) and Changing the Address**)

> **Note**
>
> When the GM (firmware version R2.03.01 or later) is in either of the following conditions, the IP address cannot be changed.
> - In security settings, **Communication** is set to **Login**.
> - The advanced security function (/AS option) is set to **On**, and the GM is recording.
>
> Related topic:▶ **2.3.2 If GM's Communication Is Set to Login and the IP Address Cannot Be Changed**

2.2.1 Connecting the GM to a PC Locally (One-to-One) and Changing the Address

Locally connect the GM to a PC in which the Address Configurator is installed (one-to-one connection), and change the IP address. The procedure to change the address is the same as that shown below.

When making a local (one-to-one) connection with the PC, do not set the PC to obtain the IP address automatically. Enter the IP address manually to an address other than the one that is to be assigned to the GM.

Setup Example of the PC and GM

IP address of the PC	192.168.0.100
Subnet mask of the PC	255.255.255.0
IP address of the GM	192.168.0.10
Subnet mask of the GM	255.255.255.0

2.2.2 Changing the Address of the GM Connected to the Network

Procedure
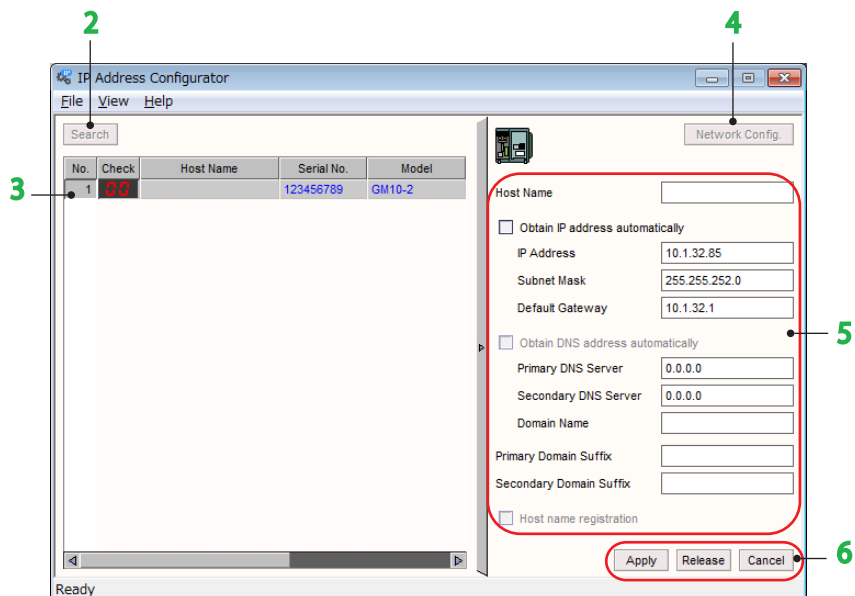
1. Start the IP Address Configurator.
The Address Setting screen in displayed..

2. Click the **Search** button in the List display screen.
The GMs residing in the same segment are displayed.

2

3. Click the **No.** of the GM whose address you want to change.
The information of the selected GM is shown in blue characters.

4. Click **Network Config.** in the Address setting screen.
This enables changes to the settings.

5. Enter settings for each item. (See **2.1.3 Address Setting Screen** for the details.)

6. Click **Apply** to change the settings of the GM, **Cancel** to exit without saving changes, or **Release** to clear the IP address from the DHCP server.

Note

To check whether the IP address was obtained correctly each time, click the Apply button, wait a few moments, then click the Search button in the List display screen. If you click the Search button immediately after the change, the IP address, subnet mask, and default gateway may be displayed as 0.0.0.0.

2.3 Troubleshooting

2.3.1 What to Do When GMs Cannot Be Detected

If GMs are not detected even when you click Search, check the following.

- Check the internet connection status using the ping command. If the ping fails, check the cables, hub, IP address settings, and other factors to determine the cause.
- Check that procedures performed on the software are correct.
- If the Windows OS firewall is enabled, GMs may not be detected even when you click Search.
     For the workaround on Windows 7, see the **Appendix**.
     For other Windows versions, configure "Allow a program or feature through Windows Firewall".
     For details on how to change the settings, check the Microsoft support website.
- Note that this software does not support multiple network adaptors. If the multiple network adaptors are being enabled (example: Both cable LAN and wireless LAN), disable the network connections other than GM.
     Windows 7: Go to **Start** > **Control Panel** > **Network and Sharing Center**, then click **Change adapter settings** in the left-hand column. Right-click on the unused connection and select **Disable**.

2.3.2 If GM's Communication Is Set to Login and the IP Address Cannot Be Changed

In the security settings of the GM, if Communication is set to **Login**, you cannot change the IP address from this software. To change the GM IP address, use either of the following methods.

- When serial communication, USB communication, or Bluetooth communication is possible between the GM and PC
  Connect the GM to the PC using one of the communication schemes, and use SMARTDAC+ Hardware Configurator to change the IP address. If you use this method, you do not have to turn off the GM.

- When local Ethernet (one-to-one) connection is possible between the GM and PC
  Connect the GM to the PC locally with an Ethernet cable. Turn off the GM, and restart it in fixed IP address mode. Then, use the GM's Web application or SMARTDAC+ Hardware Configurator to change the IP address.

Note
- For details on the GM fixed IP address mode and Web application, see the *GM Data Acquisition System User's Manual* (IM 04L55B01-01EN).
- For details on how to use Hardware Configurator, see the *SMARTDAC+ STANDARD Hardware Configurator User's Manual* (IM 04L61B01-02EN).

2.3.3 Errors and Messages

| Code	Message	Description and Corrective Action
5000	Failed to store.	Check the operation mode of the GM. If the GM is in a mode other than the normal operation (such as A/D calibration, Encryption, and Update), return it to the normal mode. Or, check the GM security settings. The IP address cannot be changed in the following situations. • **Security settings** > **Security basic settings** > **Security function** > **Communication** is set to **Login**. • The advanced security function (/AS option) is set to **On**, and recording is in progress.

App. 1 Configuring/Removing the Firewall
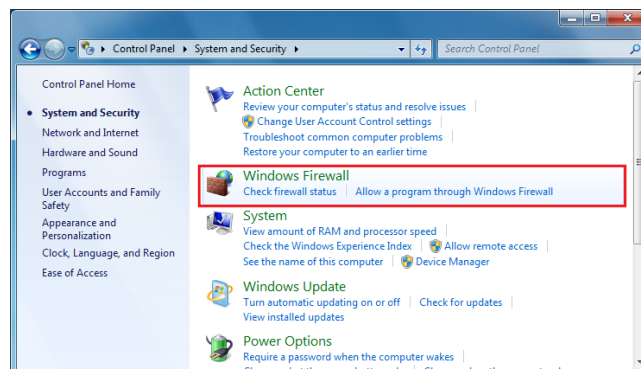
On Windows 7

1. Click the **Control panel** on the Windows **Start** menu.
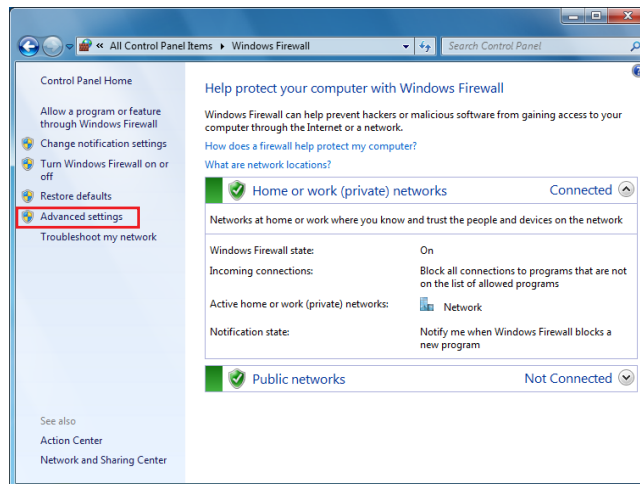The **Control Panel** appears.
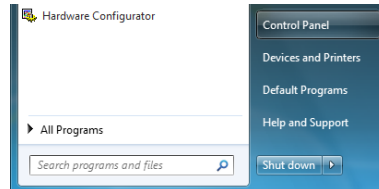
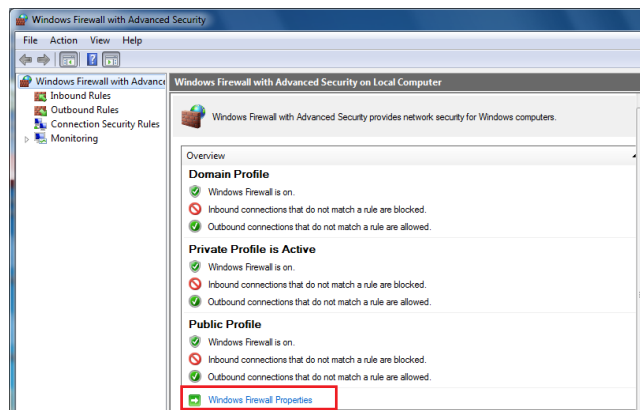**2.** Click **System and Security**.
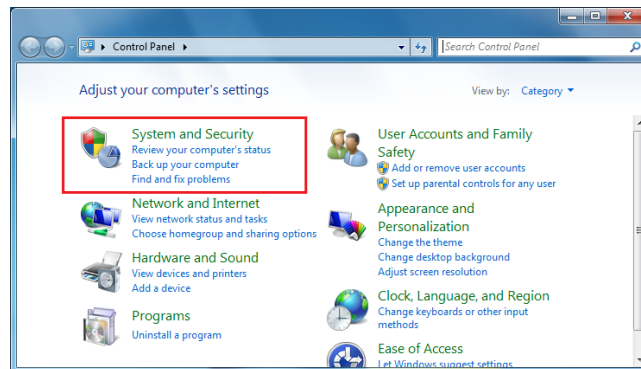
3. Click **Windows Firewall**.
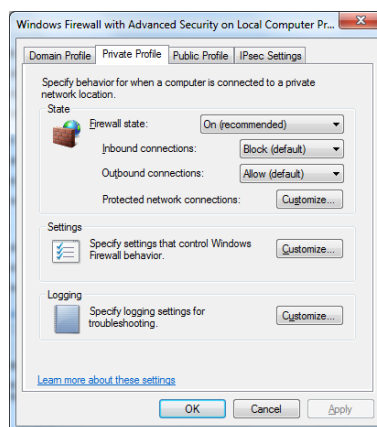The **Windows Firewall Settings** dialog box is displayed.
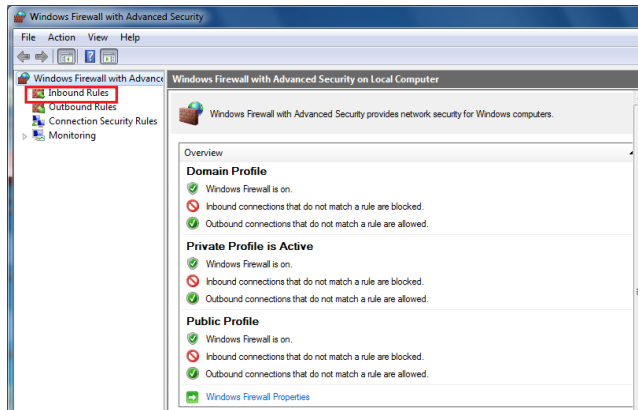
4. Click **Advanced settings**.

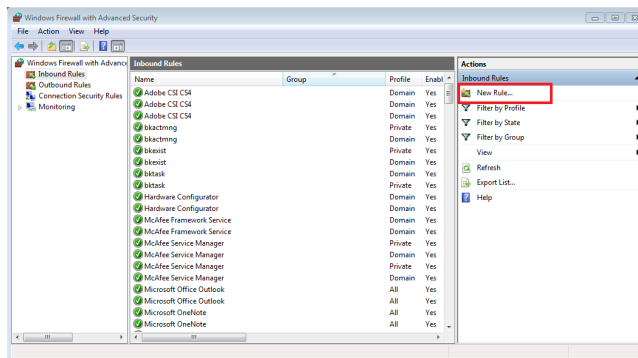**5.** Click **Windows Firewall Properties**.

6. Click the tab of the profile appropriate for your operating environment. When the **Firewall state** is **Off**, click **Cancel** to exit.
When the **Firewall state** is **On**, and **Inbound connections** or **Outbound connections** is **Block**, proceed to next step.
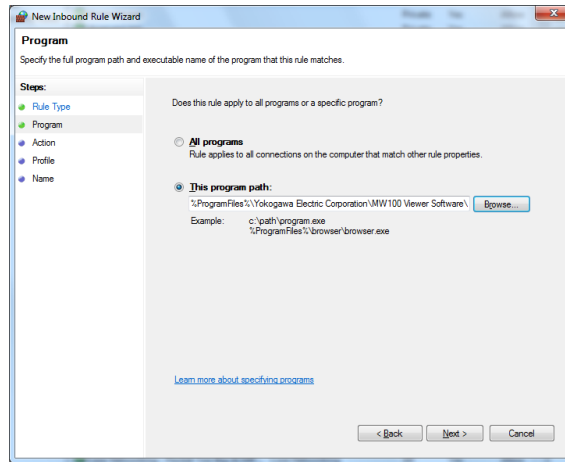
7. Click **Inbound Rules**.

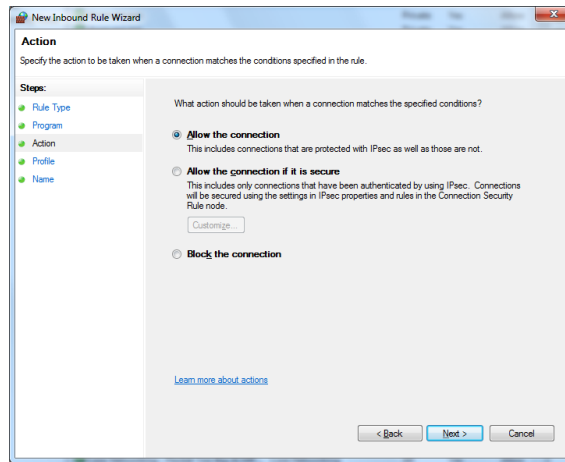**8.** Click **New Rule** in the Actions pane**.**

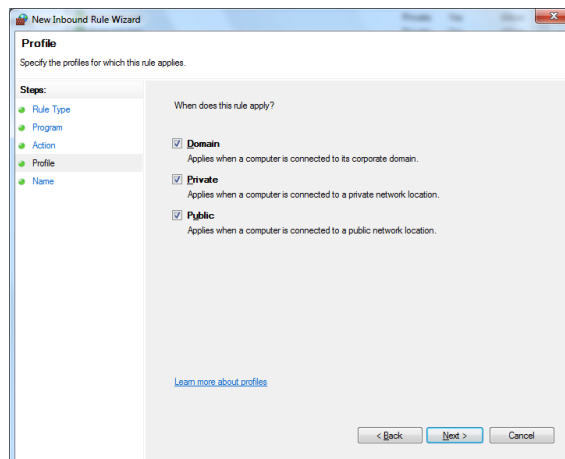**9.** Select the **Program** check box. Click **Next**.
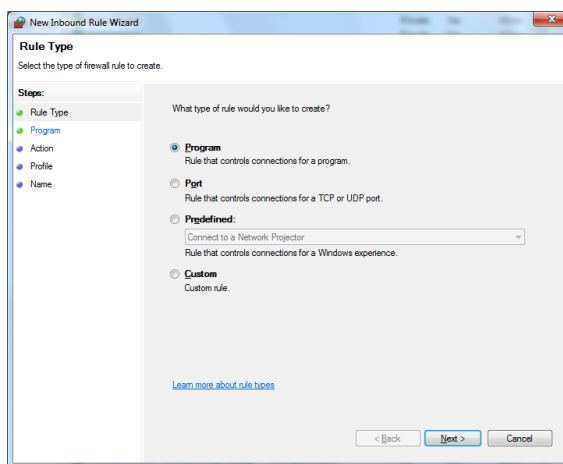
10. Select the **This program path** check box. Select **GMIPConfigE.exe** from the software's installation folder and click **Next**.
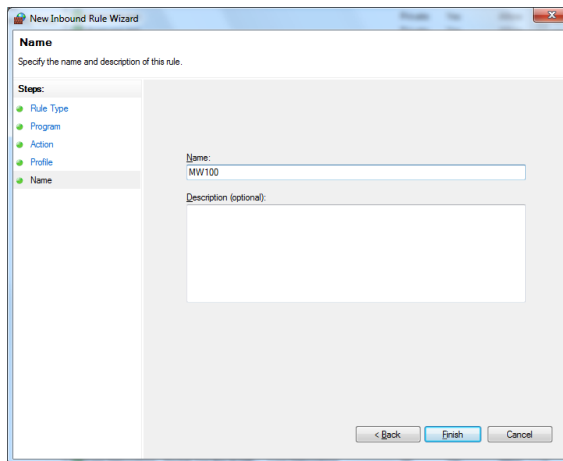

11. Select the **Allow the connection** check box. Click **Next**.

12. Specify the profiles for which this rule applies. Click **Next**.

13. Specify the name of this rule, and click **Finish**.

Blank