

#### Machine Automation Controller NJ/NX-series

## Startup Guide Remote Access

## RT1-series

SiteManager RT100

RT100-EMM3010

RT100-4GM3010-G

RT100-4GM3010-J

RT100-W5M3010

**GateManager** 

LinkManager

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#### 1. Related Manuals

To ensure system safety, make sure to always read and follow the information provided in all Safety Precautions and Precautions for Safe Use in the manuals for each device used in the system.

The table below lists the manuals provided the OMRON Corporation (hereinafter referred to as "OMRON"), which pertain to this guide.

Manufacturer	Cat. No.	Model	Manual name
OMRON	W504	SYSMAC-SE2	Sysmac Studio Version 1 Operation Manual
OMRON	W500	NJ501-000 NJ301-000 NJ101-000	NJ-series CPU Unit Hardware User's Manual
OMRON	W535	NX701-000	NX-series CPU Unit Hardware User's Manual
OMRON	W578	NX1P2-000	NX-series NX1P2 CPU Unit Hardware User's Manual
OMRON	W593	NX102-000	NX-series NX102 CPU Unit Hardware User's Manual

#### 2. Precautions

- (1) Understand the specifications of devices which are used in the system. Allow some margin for ratings and performance. Provide safety measures, such as installing a safety circuit, in order to ensure safety and minimize the risk of abnormal occurrence.
- (2) To ensure system safety, make sure to always read and follow the information provided in all Safety Precautions and Precautions for Safe Use in the manuals for each device used in the system.
- (3) The user is encouraged to confirm the standards and regulations that the system must conform to.
- (4) It is prohibited to copy, to reproduce, and to distribute a part or the whole of this guide without the permission of OMRON Corporation.
- (5) The information contained in this guide is current as of September 2020. It is subject to change for improvement without notice.

The following notations are used in this guide.



Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury, or may result in serious injury or death. Additionally, there may be significant property damage.



Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury or property damage.



#### **Precautions for Correct Use**

Precautions on what to do and what not to do to ensure proper operation and performance.



#### **Additional Information**

Additional information to read as required.

This information is provided to increase understanding or make operation easier.

#### Symbol



The filled circle symbol indicates operations that you must do.

The specific operation is shown in the circle and explained in the text.

This example shows a general precaution for something that you must do.

#### 3. Overview

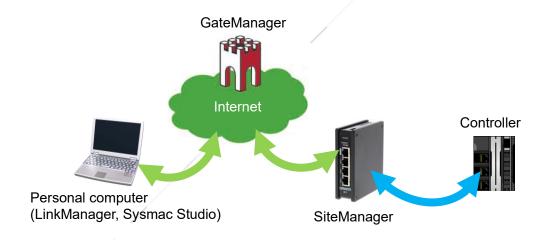
This guide describes the connection procedure for remote access from Sysmac Studio on a personal computer to an NJ/NX-series Machine Automation Controller (hereinafter referred to as the "Controller") in a remote location, by using RT SiteManager, GateManager and LinkManager.

Refer to Section 5 Remote Access Settings and Section 6 Connection Procedure for Remote Access to understand setting methods and key points so that you can build a secure remote access environment via the internet.

The SiteManager is a remote access gateway (hardware) that is installed in the field.

The LinkManager is a communication software for remote access from your personal computer in a remote location to a device placed in the field.

The GateManager is a cloud service (M2M server) to remotely connect the SiteManager and the LinkManager via the internet.



### 

The purpose of this guide is to explain the settings and procedures required for online connections via the internet between Sysmac Studio on a personal computer and the Controller in a remote location. This is not to explain control commands or remote monitoring performed using remote access to control devices connected to the Controller. When you set up an on-site system, refer to this guide and with safety in mind, make sure an online connection can be made between Sysmac Studio on your personal computer and the Controller in a remote location, with no control devices connected to the Controller.



#### 4. Device Configuration

#### 4.1. Applicable Devices

The applicable devices are as follows:

Manufacturer	Name	Model
OMRON	SiteManager	RT100-EMM3010 (internet connection via LAN)
		RT100-4GM3010-G (internet connection via 3G/4G Global)
		RT100-4GM3010-J (internet connection via 3G/4G Japan)
		RT100-W5M3010 (internet connection via WiFi)

Hereinafter, in this guide, the internet connection via LAN is referred to as "LAN connection", the internet connection via 3G/4G is referred to as "3G/4G connection" and the internet connection via WiFi is referred to as "WiFi connection".



#### **Precautions for Correct Use**

In this guide, the devices with models and versions listed in 4.2. Device Configuration are used as examples of applicable devices to describe the procedures for connecting the devices and checking their connection. You cannot use devices with versions lower than those listed in 4.2. To use the above devices with models not listed in 4.2 or versions higher than those listed in 4.2, check the differences in the specifications by referring to the manuals before operating the devices.



#### **Additional Information**

This guide describes the procedures for establishing the network connection. It does not provide information on operation, installation, wiring method, device functionality, or device operation, which is not related to the connection procedures. Refer to the manuals or contact the manufacturers of the applicable devices.

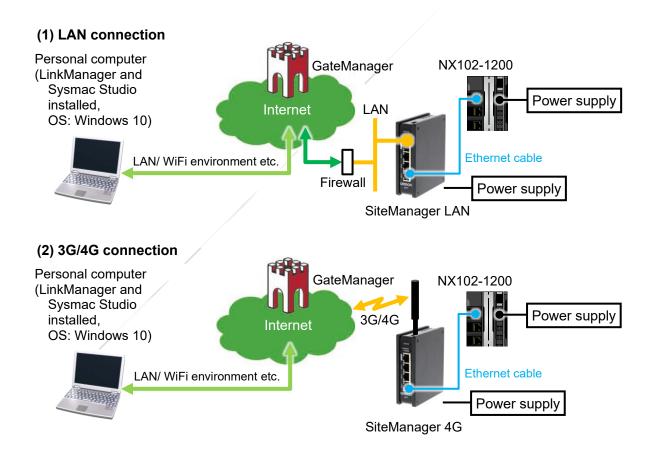
#### 4.2. Device Configuration

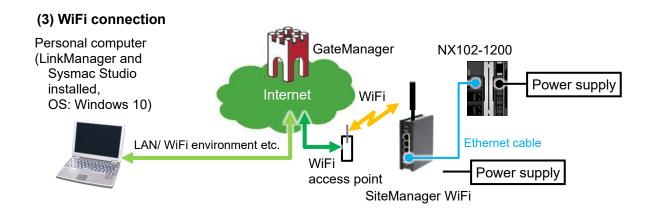
The hardware components to replicate the connection procedures in this guide are as follows. The SiteManager provides three connection models according to the connection method with the GateManager: (1) LAN connection, (2) 3G/4G connection and (3) WiFi connection. Although there are several ways to connect a personal computer to the internet, such as connections through a LAN environment and a WiFi access point, you need an environment where you can connect to cloud services on the internet, in order to connect your personal computer and the GateManager.



#### **Precautions for Correct Use**

For security reasons, some network operating environments do not allow a personal computer to connect to cloud services on the internet. Be sure to confirm in advance that the network you use can connect your personal computer and the GateManager.





#### Hardware component list

Manufacturer	Name	Model	Version
OMRON	Controller	NX102-1200	Ver.1.40
_	Power supply (24 VDC for Controller)	_	
OMRON	Sysmac Studio	SYSMAC-SE2	Ver.1.41
OMRON	Ethernet cable (with industrial Ethernet connector)	XS5W-T421-□M□-K	
_	Personal computer (OS: Windows 10, Web browser)	_	



#### **Precautions for Correct Use**

A web browser (hereinafter referred to as the "browser") is required for your personal computer. You can use browsers such as the one that comes standard with Windows.



#### **Precautions for Correct Use**

The devices with versions lower than those listed in the *Hardware component list* above are not covered by this guide. To use the devices with models not listed in or versions higher than those listed in the *Hardware component list*, check for differences in specifications by referring to the manuals before operating the devices.



#### **Precautions for Correct Use**

Update Sysmac Studio to the version 1.41 or to a higher version. If you use a version higher than the one specified, the procedures and related screenshots described in *Section 6* and the subsequent sections may not be applicable. In that case, use the equivalent procedures described in this guide by referring to the *Sysmac Studio Version 1 Operation Manual* (Cat. No. W504).



#### **Additional Information**

For information on the power supply specifications of NX102-1200, refer to the NX-series

NX102 CPU Unit Hardware User's Manual (Cat. No. W593).

#### 5. Remote Access Settings

The parameters used in this guide are shown below.

#### 5.1. GateManager Settings

The following setting item is required to log in to the GateManager as an administrator. The setting value must be determined in advance as this information is determined and managed by the user itself.

Setting item	Setting value	Remarks
Password	•••••	The password to log in as a GateManager administrator.  The password must be composed of eight or more characters, including letters, numbers and special symbols. It is especially recommended that the password include alphanumeric characters with at least twelve upper and lower case letters, numbers and special symbols such as ".", ", ", "?", "!", " < ", " > " and " "".

#### 5.2. SiteManager Settings

The SiteManager settings are given below.

The setting items vary according to how the SiteManager is connected to the internet.

Catting a itama	Setting value			Demonstra	
Setting item	(1) LAN connection	(2) 3G/4G connection	(3) WiFi connection	Remarks	
GateManager Address	(Information described	d in the e-mail sent to the	user)	GateManager connection	
Domain Token	(Information described in the e-mail sent to the user)			information	
Appliance Name	SM01 (It is determined by the user. SM01 is used in this guide.)		Management name of the SiteManager		
Uplink port	DHCP	_	_	(1) LAN connection If the network environment requires settings in Static mode, obtain and set an available IP address from your network administrator.	
Uplink2 (Mobile broadband)	_	(information provided by your mobile carrier with a SIM card)	_	(2) 3G/4G connection ASN / User Name / Password	
Uplink2 (WiFi)	_	_	(WiFi connection information according to the usage environment)	(3) WiFi information (connection destination) WiFi SSID / WiFi Key	
DEV port	IP address: 192.168.250.10 Subnet mask: 255.255.255.0 (In this guide, they are set to the values that belong to the same subnet as the Controller.)			IP address and subnet mask of DEV1–DEV3 ports	
	Device Name: NX01 (It is determined by the user. NX01 is mostly used in this guide.)			Management name of the target device	
Device Agents	Device Type: omron / (They are selected fro SiteManager.)	/ Ethernet PLC rom the pre-registered classifications in the		Manufacturer name of the target device (Controller) / device type	
	Device IP & Paramete (The default value of t	ers: 192.168.250.1 he port 1 on the Controlle	er is used in this guide.)	IP address of the target device (Controller)	

#### 5.3. LinkManager User Account Settings

The LinkManager user account settings for GateManager login are given below.

As they, except for the account role and account language, are determined and managed by the user, their setting values must be determined in advance.

Setting item	Setting value	Remarks
Account Name LM-User01		LinkManager user name (LM-User01 is used in this guide.)
Account Role LinkManager User		Create an account as a LinkManager user.
Account Language	English	Display language
Person Name	XXXXX	User name for screen display
Email xxxxx@xxxx.xxx		An Email address to receive the created LinkManager user account.
Password	•••••	A password to log in to the GateManager as a LinkManager user.  The password must be composed of eight or more characters, including letters, numbers and special symbols. It is especially recommended that the password include alphanumeric characters with at least twelve upper and lower case letters, numbers and special symbols such as ".", ", ", ", ", ", ", ", ", ", ", ", ", "

#### 5.4. Controller Setup

The NX102-1200 Controller is used in this guide.

The port 1 is used as a remote access connection destination, and the default value is used for the IP address.

Setting item	Controller (Port 1)
IP address	192.168.250.1 (default)
Subnet mask	255.255.255.0 (default)



#### **Precautions for Correct Use**

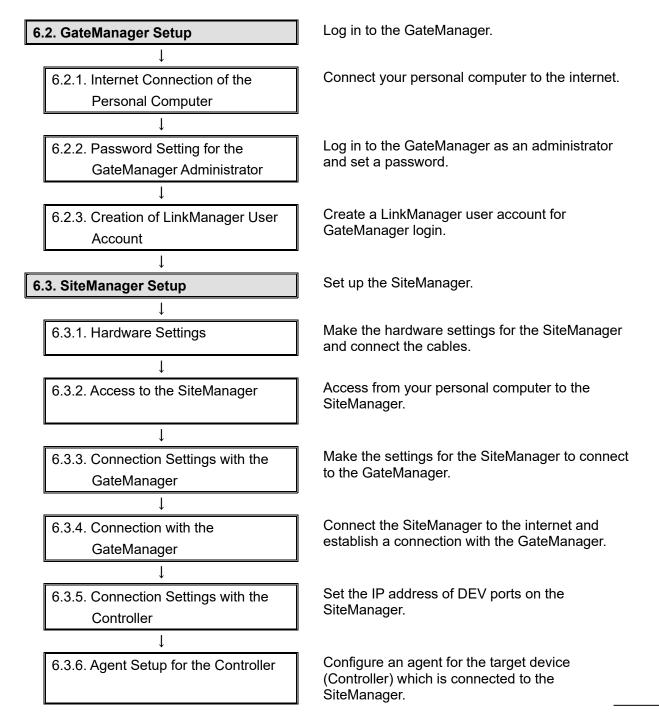
The procedure for setting up the Controller is based on the factory default settings. Refer to Section 7 Initialization Method for information on how to initialize the Controller.

#### 6. Connection Procedure for Remote Access

This section describes the procedures for remote access from Sysmac Studio on a personal computer to the Controller in a remote location via the internet. The procedures for setting up the Controller and the SiteManager in this guide are based on the factory default settings. Refer to *Section 7 Initialization Method* for information on how to initialize the Controller and the SiteManager.

#### 6.1. Work Flow

Take the following steps to remotely access from Sysmac Studio on your personal computer to the Controller in a remote location.



#### Confirm remote access. **6.4. Remote Access Confirmation** Log in to the GateManager as a LinkManager 6.4.1. Login as a LinkManager User user and start the LinkManager on your personal computer. Connect your personal computer and the 6.4.2. Connection Between the Controller. Personal Computer and the Controller Start Sysmac Studio and go online with the 6.4.3. Sysmac Studio Online Controller. Connection Exit Sysmac Studio and log off the LinkManager 6.4.4. LinkManager User Logoff

#### 6.2. GateManager Setup

Log in to the GateManager.

#### 6.2.1. Internet Connection of the Personal Computer

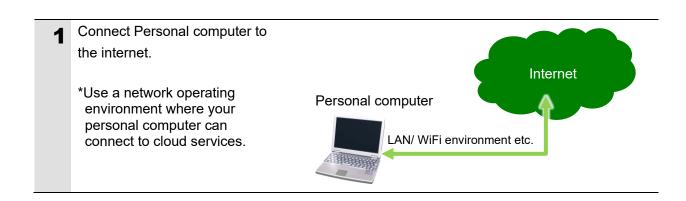
Connect your personal computer to the internet.

Although there are several ways to connect a personal computer and the internet, such as connections through a LAN environment and a WiFi access point, you need an environment where you can connect your personal computer and cloud services on the internet.



#### **Precautions for Correct Use**

For security reasons, some network operating environments do not allow a personal computer to connect to cloud services on the internet. Be sure to confirm in advance that the network you use can connect your personal computer and the GateManager.



#### 6.2.2. Password Setting for the GateManager Administrator

Log in to the GateManager as an administrator and set a password.

A one-time password for first time login to the GateManager is sent with a certificate via email to you. The one-time password is valid within forty eight hours after you receive the email. You first need to change the one-time password to a new password of your choice.



#### **Precautions for Correct Use**

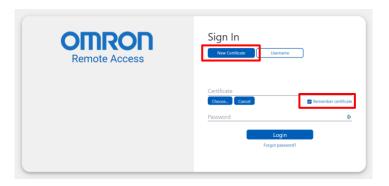
To log in to the GateManager, you need a certificate which is usually sent via email to the user. If you do not have the certificate at hand, contact your local Omron representative.

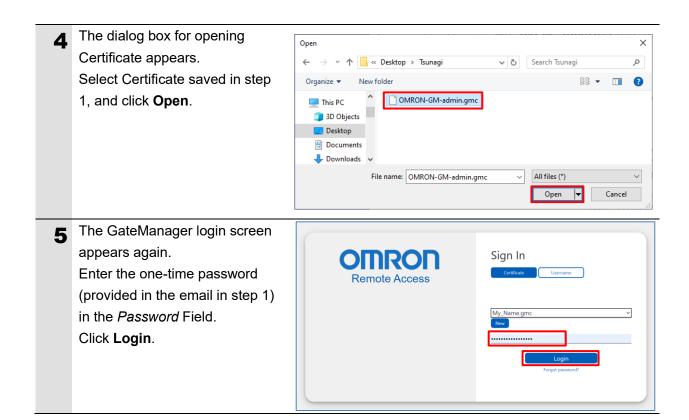
1 Open the email with the attached Certificate and save Certificate on Personal computer.



The URL to open the
GateManager login screen is
provided in the email.
Click the URL <a href="https://rt1-gm01.automation.omron.com/">https://rt1-gm01.automation.omron.com/</a>

The browser starts up, and the GateManager login screen appears. Select the *Certificate* Option, and check the box for *Remember Certificate*. Click **Choose**.





- You are asked to change the password when you first time log in to GateManager using Certificate and one-time password provided in the email. Enter your pre-determined password in the New password and Repeat password Fields. Click Continue.
  - \*It is recommended that the password include alphanumeric characters with at least 12 upper and lower case letters, numbers and special symbols such as ".", ",",",",",",",","," and ".","
  - \*The password set here can be used the next time you log in.
  - \*If 48 hours have passed since you received the email, the one-time password provided in the email will no longer be valid. In that case, when you log in with the one-time password provided in the email, the Login Failed screen appears. Click **Renew** displayed on the screen so that a new one-time password can be sent to you.



The color of the New password Field indicates the following states.

Green: Your password meets the requirements.

Yellow: Your password meets the requirements but is weak.

Red: Your password does not meet the requirements. You need to re-enter a password that meets the requirements.



After completing the first login process, the dialog box on the right appears asking you to accept the Terms of Use.

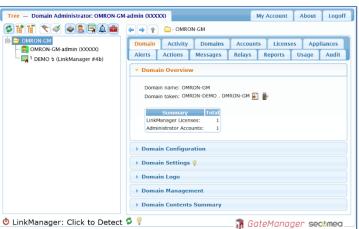
Select the first checkbox to accept the Terms of Use.

If you wish to receive a copy of the Terms of Use via email, select the second box.

Click **Continue**.



- 8 Check that the login to
  GateManager as an
  administrator is completed and
  that the GUI screen for
  GateManager administrators (as
  shown on the right) appears.
  - \*The GateManager administrator login password is set.



#### 6.2.3. Creation of LinkManager User Account

Create a LinkManager user account for GateManager login.

1 On the GUI screen for GateManager administrators, right-click the top-level item (in this case, R&D) in the configuration tree, and select *Create Account* from the menu.



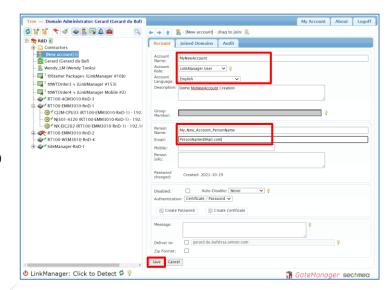
The screen on the right appears.

Enter or select the following information and click **Save**.

- Account Name: LM-User01
   (It is determined by the user.
   "MyNewAccount" is used in this image.)
- Account Role: LinkManager User
   (Select the role you are undertaking.)
- Account Language: English
   (Select the language you wish to use.)
- Person Name: XXXXX
   (It is determined by the user.)
- Email: xxxxx@xxxx.xxx
   (Set an email address to receive the account information.)



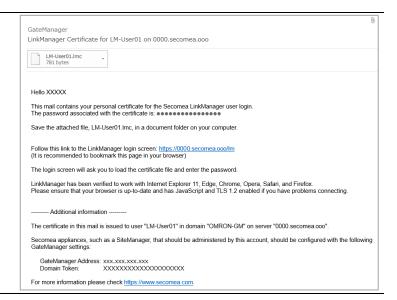
Confirm that there is no problem, and click **Yes**.





4 Check that the email with Certificate for the LinkManager user (as shown in the figure on the right) is received at the email address you set.

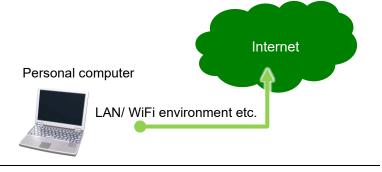
\*This email is used in 6.4.1. Login as a LinkManager User.



In the next procedure 6.3, Personal computer is used for the SiteManager setup. Click Logoff at the top right of the GUI screen to log off GateManager.



6 Disconnect Personal computer from the internet.



#### 6.3. SiteManager Setup

Set up the SiteManager.

Although there are several ways to set up the SiteManager, this guide describes how to connect the DEV ports on the SiteManager directly to your personal computer with an Ethernet cable and how to set it up in the browser.



#### **Additional Information**

There are other ways to set up the SiteManager.

For more information refer to the instruction sheet delivered with your product for details.

- Load the configuration file created on the GateManager into the SiteManager via a USB stick
- Configure the SiteManager by using the Wizard-based Windows application "Appliance Launcher" installed on your personal computer

#### 6.3.1. Hardware Settings

Make the hardware settings for the SiteManager and connect the cables.

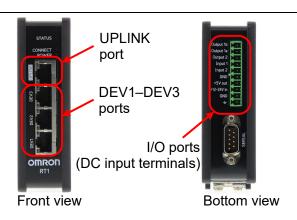


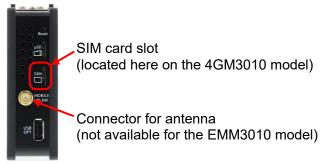
#### **Precautions for Correct Use**

Make sure the power supplies are OFF before setting up. If either of them is ON, the settings described in the following steps and subsequent procedures may not be applicable.

Make sure Power supplies for SiteManager and Controller are OFF.

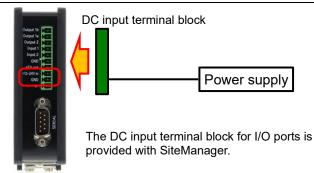
- 2 Check the positions of UPLINK port, DEV1–DEV3 ports, I/O ports (DC input terminals) and if necessary, Connector for antenna and SIM card slot by referring to the figure on the right.
  - \*As a reference example, the figure on the right shows the W5M3010 model (WiFi connection).





Front view of the W5M3010 model

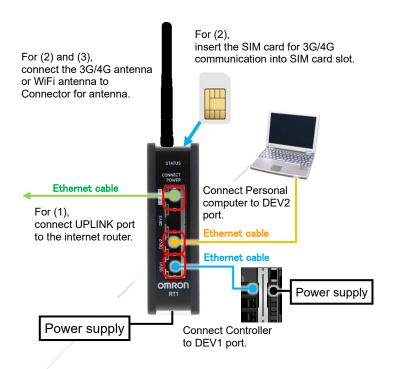
- **3** Connect Power supply to DC input terminals on the bottom of SiteManager.
  - \*For information on power supply connection to SiteManager, refer to the instruction sheet delivered with your product for details.



- Connect DEV1 port and DEV2 port on SiteManager to Port 1 on Controller and Ethernet port on Personal computer with Ethernet cables, respectively.
  - LAN connection
     Connect UPLINK port and the internet router with an Ethernet cable.
  - 3G/4G connection
     Connect the 3G/4G antenna
     to Connector for antenna, and
     insert the SIM card for 3G/4G
     communication into SIM card
     slot.
  - WiFi connection
     Connect the WiFi antenna to
     Connector for antenna, and
     check that the WiFi access
     point is enabled.

Connect Power supply to Controller.

\*For information on the power supply connection to Controller, refer to 5-4-1 Wiring the Unit Power Supply of the NX-series NX102 CPU Unit Hardware User's Manual (Cat. No. W593).



Depending on the model only one DEV port (DEV1) might be provided. Connect Personal computer to DEV1 port during the SiteManager setup.

After completing the setup, disconnect Personal computer, and then connect Controller to DEV1 port.

#### 6.3.2. Access to the SiteManager

Access from your personal computer to the SiteManager.



#### **Precautions for Correct Use**

If your personal computer is connected to the internet via WiFi connection or other methods, disconnect from the internet.

The following SiteManager settings may not be applicable unless you disconnect the internet.

- Make sure Personal computer is not connected to the internet via WiFi connection or other methods.
- Change the IP address and subnet mask of Ethernet port on Personal computer to belong to the same subnet as DEV ports on SiteManager.

In this guide, they are set as follows:

• IP address: 10.0.0.2

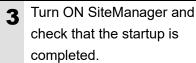
· Subnet mask: 255.255.255.0

\*The IP address (default) of DEV1–DEV3 ports on SiteManager is as follows:

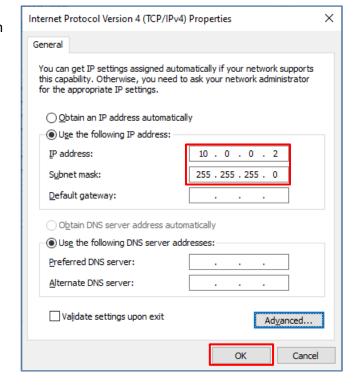
• IP address: 10.0.0.1

· Subnet mask: 255.255.255.0

\*If SiteManager is not in the factory default settings, initialize SiteManager by referring to Section 7.
Initialization Method.



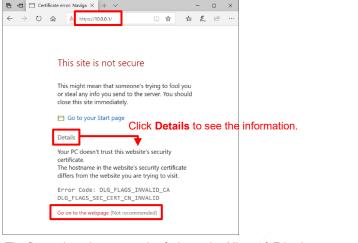
\*The completion of startup can be checked by STATUS LED changing from Steady RED blink to On RED.





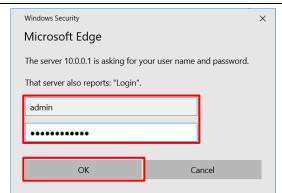
- **4** Start the browser on Personal computer, and go to SiteManager (https://10.0.0.1/).
  - \*A warning message appears as shown in the figure on the right, but there is no particular problems. The warning message differs depending on the browser you use.

    Proceed with going to SiteManager (https://10.0.0.1/).



(The figure above is an example of when using Microsoft Edge.)

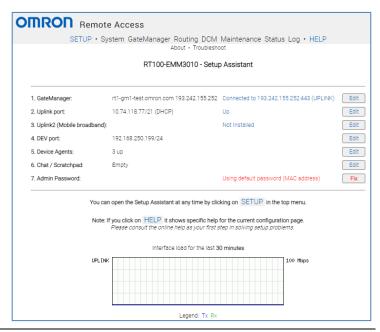
- You are asked to enter your user name and password to access SiteManager. Enter the following items and click **OK**.
  - · User name: admin
  - Password: MAC address of SiteManager
  - \*The MAC address is printed on the label attached on the side of SiteManager. In the example on the right, 00c0a206babe is the password.



(The figure above is an example of when using Microsoft Edge.)



- **6** The SETUP screen for SiteManager appears.
  - \*The screenshots of the RT100-EMM3010 model are used as a reference example in the figures shown in the subsequent procedures.



#### 6.3.3. Connection Settings with the GateManager

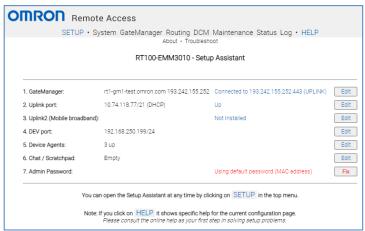
Make the settings for the SiteManager to connect to the GateManager.

1 The Setup Assistant will appear with this first time some settings that need a Fix.

Click Fix for "1. GateManager"







- As shown in the figure on the right, enter setting values in the following three fields.
  - GateManager Address
  - Domain Token
  - Appliance Name

The setting values of the GateManager address and domain token have been listed in Additional information of the email sent to you, which is shown in step 1 of 6.2.2.

Password Setting for the GateManager Administrator.

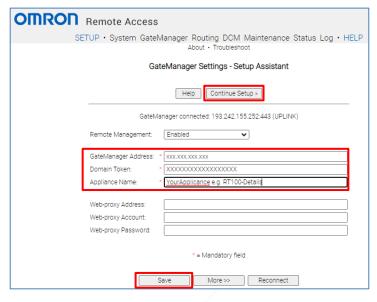
Enter those setting values in the fields.

In the *Appliance Name* Field, enter a name to manage SiteManager.

SM01 is used in this guide.

Click Save.

After completing the settings, click **Continue Setup**.
The SETUP screen in step 1 appears again.



#### Email that was sent to the user

#### 6.3.4. Connection with the GateManager

Connect the SiteManager to the internet and establish a connection with the GateManager.

There are three ways to connect to the internet according to the device you use:

(1) LAN connection, (2) 3G/4G connection and (3) WiFi connection.

Make the settings according to the internet connection.



#### **Precautions for Correct Use**

The setting items vary with each of the internet connections (1) to (3) as mentioned above. In the following procedure, perform only those steps that are appropriate for the internet connection you use.

#### (1) LAN connection

Make the settings of 2. Uplink port.

Make sure an Internet-accessible Ethernet cable is connected to UPLINK port on SiteManager.

Click Edit for

2. Uplink port.

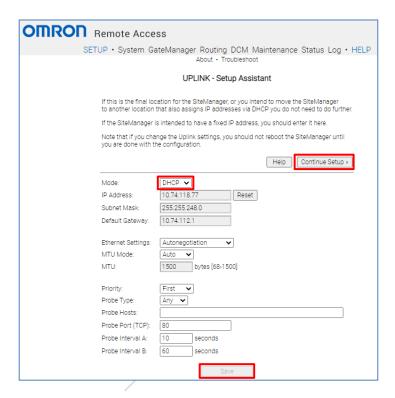


- 2 The setting screen for the port (UPLINK) connected to the internet appears. Select **DHCP** from the pull-down list in the **Mode** Field. Click **Save**.
  - \*If there is no change in the settings, the Save Button will be grayed out (disabled), which means no need to click on it.
  - \*If you need to make the settings with the static IP address, obtain the available IP address information from the network administrator and enter the values in the IP Address and Subnet Mask Fields.

After completing the settings, click **Continue Setup**. The SETUP screen in step 1 appears again.

3 Check that SiteManager is connected to the internet and, with the LED on SiteManager, that communication with GateManager is established.

· STATUS: On GREEN





#### (2) 3G/4G connection

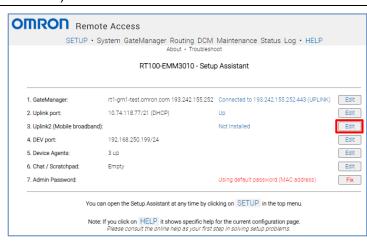
Make the settings of 3. Uplink2 (Mobile broadband).

1 For model RT100-4G ensure the 3G/4G antenna is connected to the antenna connector and that the SIM card for 3G/4G communication is inserted in SIM card slot.

Click Edit for

3. Uplink2 (Mobile broadband).

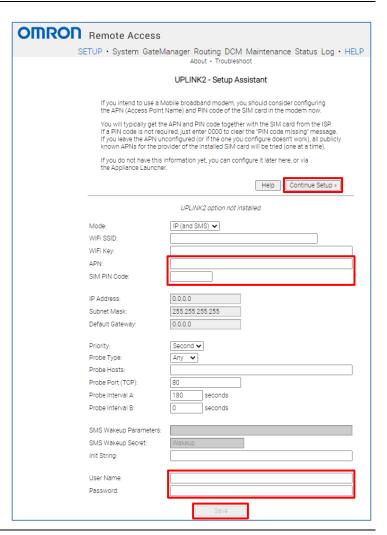
\*The figures on the right show the screenshots of the RT100-W5M3010 model. For other models the name can be different. E.g. Uplink2 (WiFi)



- 2 On the screen for 3G/4G connection settings, set the following items of connection information. Click **Save**.
  - APN
  - · SIM PIN code
  - User Name
  - Password
  - \*These items of connection information are usually provided with the SIM card.

    If you cannot find them, contact your SIM card provider.

After completing the settings, click **Continue Setup**. The SETUP screen in step 1 appears again.



Check that SiteManager is connected to the internet and, with the LEDs on SiteManager, that communication with GateManager is established.



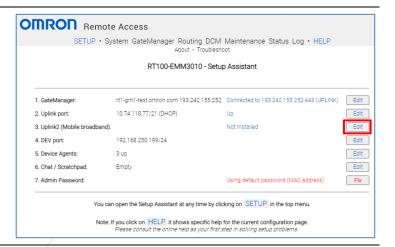
STATUS: On GREENUPLINK2: On GREEN

#### (3) WiFi connection

Make the settings of 3. Uplink2 (WiFi)

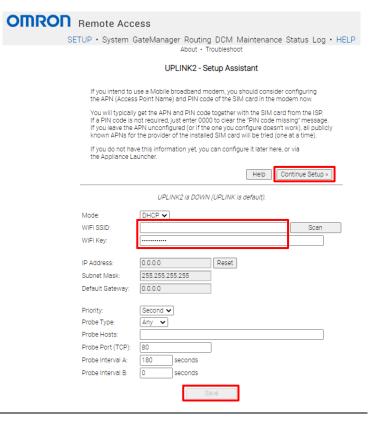
1 Check that the WiFi antenna is connected to Connector for antenna and that the WiFi access point is enabled.

Click Edit for 3. Uplink2 WiFi.



- 2 On the screen for WiFi connection settings, set the following items of connection information. Click **Save**.
  - WiFi SSID
  - WiFi Key
  - \*Check the connection information for the WiFi environment you use, and then set the items above.

After completing the settings, click **Continue Setup**. The SETUP screen in step 1 appears again.



Check that SiteManager is connected to the internet and, with the LEDs on SiteManager, that communication with GateManager is established.

STATUS: On GREENUPLINK2: On GREEN

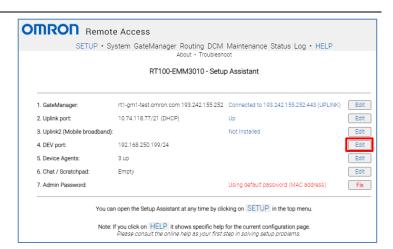


#### 6.3.5. Connection Settings with the Controller

Set the IP address of DEV ports on the SiteManager.

1 Set the IP address of DEV1–
DEV3 ports to connect
Controller by following the steps below.

Click Edit for 4. DEV port.



2 Change the IP address and subnet mask of DEV1–DEV3 ports to belong to the same subnet as Controller.
In this guide, the following values are set.

• IP Address: 192.168.250.10

• Subnet Mask: 255.255.255.0

\*The IP address (default) of Port 1 on Controller is as follows:

• IP address: 192.168.250.1

Subnet mask: 255.255.255.0

Click Save.

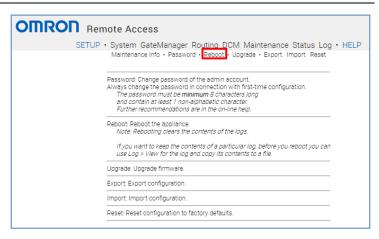


**3** After completing the IP address settings, reboot SiteManager to reflect the set IP address.

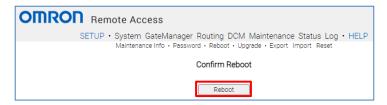
Click **Maintenance** on the menu bar.



The Maintenance screen appears. Click **Reboot**.



**5** A confirmation dialog box appears. Confirm that there is no problem, and click **Reboot**.



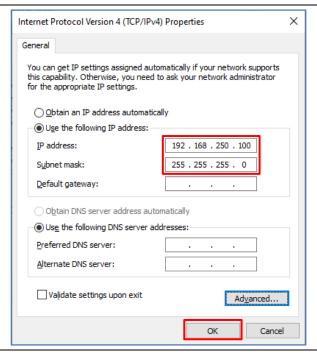
The SiteManager reboot starts. The link to connect to the new address is displayed.



**7** During the SiteManager reboot, set the IP address of the Ethernet port on Personal computer again to belong to the same subnet as the changed DEV1–DEV3 ports. In this image, the following values are set.

• IP address: 192.168.250.100

• Subnet mask: 255.255.255.0



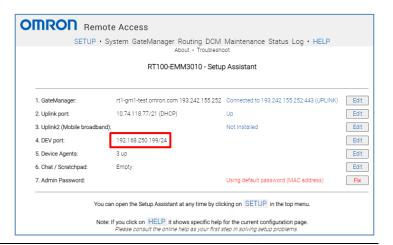
8 Check that the SiteManager reboot is completed.
When completed the STATUS LED will be GREEN.





9 In the same way as steps 4 and 5 of 6.3.2. Access to the SiteManager, connect to SiteManager again.

Check that the IP address displayed in the *4. DEV port* Field is 192.168.250.10.

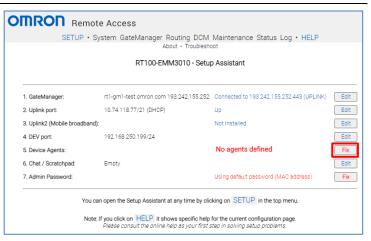


#### 6.3.6. Agent Setup for the Controller

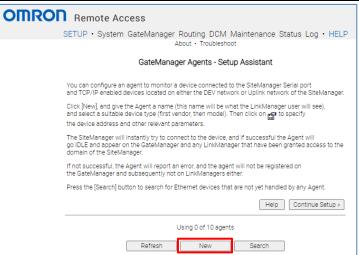
Configure an agent for the target device (Controller) which is connected to the SiteManager. This process is called "Agent Setup".

To make Agent Setup for Controller, click **Fix** for 5.

Device Agents on the SETUP screen for SiteManager.



The dialog box on the right appears. Click **New** to configure an agent.



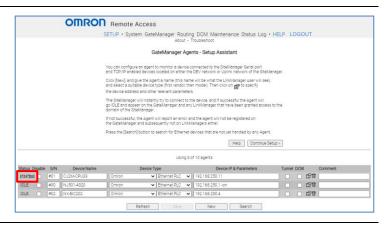
3 The Agent Setup screen appears. Enter a name for Controller management in the Device Name Field, e.g. NX01. Select Omron (manufacturer name) and the Ethernet PLC (device type) from the pull-down list in the Device Type Field. Enter 192.168.250.1 (Controller IP address) in the Device IP & Parameters Field.



Click Save.

The agent for the device is configured. Check that STARTING is displayed in the STATUS Field.

\*The information in the *STATUS* Field varies with the status of Controller.



**5** Click **Logout** on the menu bar to log out of SiteManager.



- 6 Turn OFF SiteManager.
- **7** Disconnect Personal computer used for SiteManager Setup from SiteManager.
  - \*If only one DEV port is available connect DEV1 port on SiteManager and Port 1 on Controller with the Ethernet cable after disconnecting Personal computer from DEV1 port on SiteManager.



#### 6.4. Remote Access Confirmation

Confirm remote access.

Here, confirm that an online connection between the Controller and Sysmac Studio on your personal computer can successfully be established via the internet. Make sure you install Sysmac Studio on your personal computer before proceeding. Follow the procedures in this section to install and use LinkManager for confirmation of remote access.

## **⚠ WARNING**

By following the steps below, you can confirm that an online connection between the Controller and Sysmac Studio on your personal computer can successfully be established via the internet. When confirming the online connection, consider safety and perform the confirmation process without connecting control devices to the Controller.



#### 6.4.1. Login as a LinkManager User

Log in to the GateManager as a LinkManager user and start the LinkManager on your personal computer.

Open the received email with LinkManager Certificate for LM-User01 on 0000.secomea.ooo the attached Certificate, which It is used in step 5. is shown in step 4 of 6.2.3. Certificate Creation of LinkManager User Hello XXXXX Account, and save Certificate Save the attached file, LM-User01.lmc, in a document folder on your computer on Personal computer. The URL to open the This mail contains your personal certificate for the Secomea LinkManager user login. The password associated with the certificate is: GateManager login screen for Save the attached file, LM-User01.lmc, in a document folder on your computer LinkManager users is provided in the email. Click the URL Follow this link to the LinkManager login screen https://rt1-gm01.automation.omror (It is recommended to bookmark this page in your prowser) https://rt1-The login screen will ask you to load the certificate file and enter the password. LinkManager has been verified to work with Internet Explorer 11, Edge, Chrome, Opera, Safari, and Firefox. Please ensure that your browser is up-to-date and has JavaScript and TLS 1.2 enabled if you have problems connecting. gm01.automation.omron.com/lm The browser starts up, and the Sign In GateManager login screen for Remote Access LinkManager users appears. Select the Certificate Option and then Browse.

The dialog box for opening Open Certificate appears. ← → ✓ ↑ 📙 « Desktop → Tsunagi ∨ ひ Search Tsunagi ٥ Select the Certificate saved in New folder **?** step 1, and click **Open**. LM-User01.lmc 🧊 3D Objects Desktop Documents ♣ Downloads ∨ ✓ All files (\*) File name: LM-User01.lmc The GateManager login screen Sign In appears again. Enter the one-time password (provided in the email in step 1) in the Password Field. Click Login.

- You are asked to change the password when you first time log in to GateManager using Certificate and one-time password provided in the email. Enter your pre-determined password in the New password and Repeat password Fields. Click Continue.

  - \*The password set here can be used the next time you log in.



The color of the *New password* Field indicates the following states.

Green: Your password meets the requirements. Yellow: Your password meets the requirements but is weak.

Red: Your password does not meet the requirements. You need to re-enter a password that meets the requirements.

If 48 hours have passed since you received the email, the one-time password provided in the email will no longer be valid. In that case, you can get a new one-time password by following the procedure in step 6 of 6.2.2. Password Setting for the GateManager Administrator.

Only when you first time log in, you are asked to accept the Terms of Use as shown in the figure on the right.
Select the first checkbox to accept the Terms of Use.
If you wish to receive a copy of the Terms of Use via email, select the second box.
Click Continue.



The GUI screen for
LinkManager users appears.
If LinkManager is already
installed on Personal computer
and has started up,
"LinkManager: Ready" is
displayed on the lower left side
of the screen, as shown in the
figure on the right.

\*If "LinkManager: Off" is displayed on the lower left side of the screen, click displayed to the right of "LinkManager: Off".

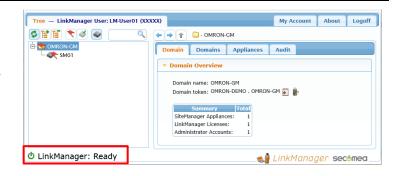
The screen on the right appears stating "LinkManager Client not running!".

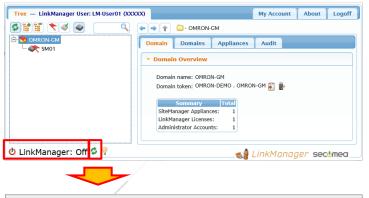
If you did not yet install LinkManager, click **Install LinkManager**.

An \*.exe file will be downloaded. Activate the \*exe file and follow the setup instructions to install LinkManager.

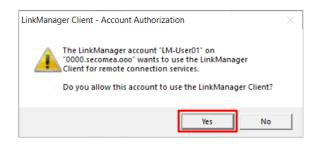
If you already installed LinkManager, click **Start LinkManager**.

\*If the dialog box for account authorization (as shown on the right) appears, confirm that there is no problem, and click **Yes**.





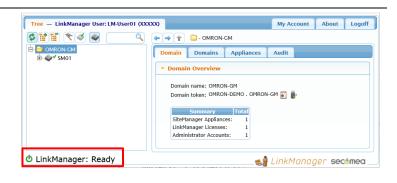


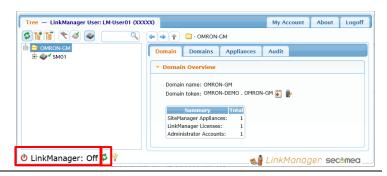


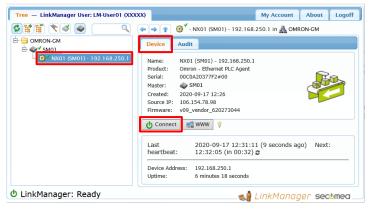
#### 6.4.2. Connection Between the Personal Computer and the Controller

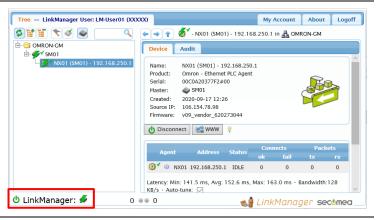
Connect your personal computer and the Controller.

- 1 Turn ON SiteManager and Controller.
- 2 Check that the GateManager login as a LinkManager user is completed and that "LinkManager: Ready" is displayed on the lower left side of the screen.
  - \*If you cannot log in to GateManager, click the URL for login as a LinkManager user, which is provided in the email in step 2 of the previous procedure.
  - \*If "LinkManager: Off" is displayed on the lower left side of the screen, start LinkManager by following step 8 of the previous procedure.
- 3 Expand the configuration tree on the left side of the screen, and select NX01 (Controller) as a target device.
  Click the Device Tab displayed
  - on the right side of the screen, and then click **Connect**.









5 Check with the LED on SiteManager that communication between Personal computer and SiteManager is established.



· CONNECT: On GREEN

#### 6.4.3. Sysmac Studio Online Connection

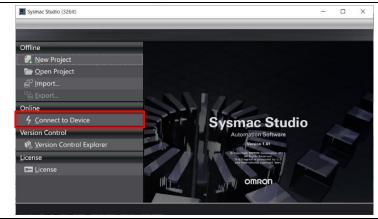
Start Sysmac Studio and go online with the Controller.

■ Start Sysmac Studio.

\*If the User Account Control Dialog Box appears at start, make a selection to start Sysmac Studio.

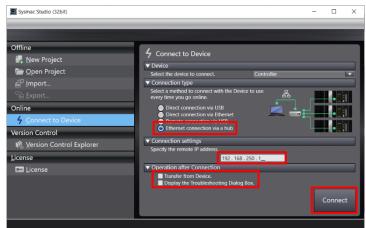


2 Sysmac Studio starts up. Click Connect to Device.



The Connect to Device Screen appears.

Select Ethernet connection via a hub in the Connection type
Field. Set the IP address of the connection destination to
192.168.250.1 in the
Connection settings Field.
Uncheck the boxes for both
Transfer from Device and
Display the Troubleshooting
Dialog Box in the Operation
after Connection Field.

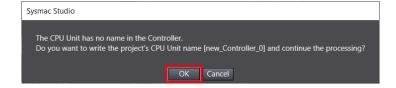


4 If Controller is in the factory default settings, the dialog box on the right appears. Check the message and click

Click Connect.

OK.

\*The message of the dialog box varies with the status of Controller. Check the message and click on an appropriate button to proceed with the processing.



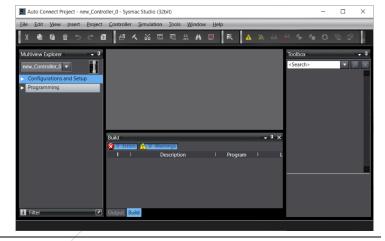
**5** If the dialog box on the right appears, check the message and click **OK**.

Controller restarts.

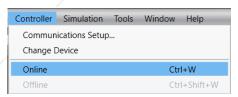
\*The message of the dialog box varies with the status of Controller. Check the message and click on an appropriate button to proceed with the processing.



**6** The Auto Connect Project Dialog Box appears showing offline status.

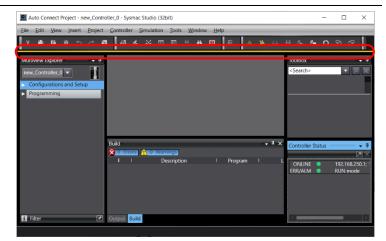


7 Check that the Controller startup is completed.
Select *Online* from the Controller Menu.



The Auto Connect Project
Dialog Box shows online status.
When an online connection is
established, a yellow line
appears under the toolbar.

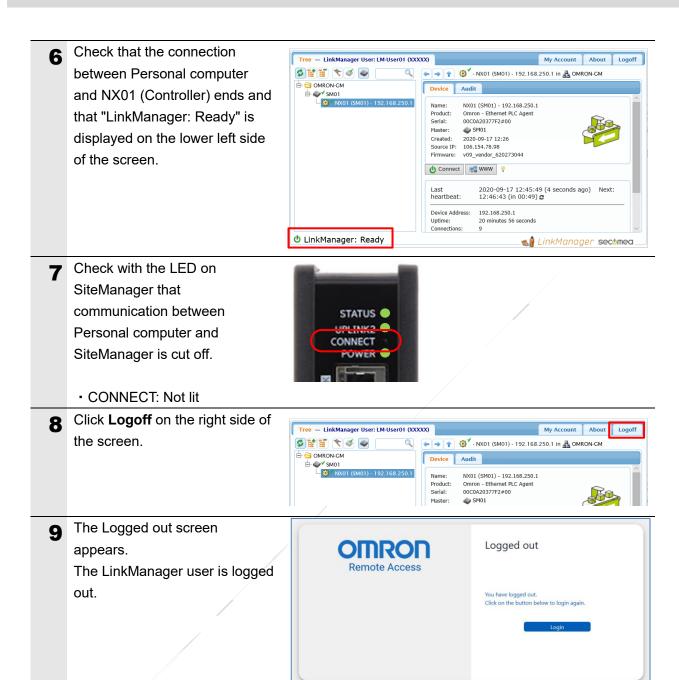
\*With Sysmac Studio on Personal computer, you can see that Controller and Sysmac Studio are successfully connected online by remote access via the internet.



#### 6.4.4. LinkManager User Logoff

Exit Sysmac Studio and log off the LinkManager user.

Select Offline from the Controller Simulation Tools Window Help Controller Menu in Sysmac Studio. Change Device Online Ctrl+W Offline Ctrl+Shift+W The yellow line under the toolbar disappears indicating that Controller goes offline. Select Exit from the File Menu. File Edit View Insert Projec Ctrl+S Save As... Save As New Number... Import... Export... Offline Comparison Page Settings... Print... Ctrl+P Exit The dialog box on the right Auto Connect Project appears. Check the message Do you wish to save the Project before exiting? and click No. Yes No Cancel \*Sysmac Studio closes. In the configuration tree 🎸 - NX01 (SM01) - 192.168.250.1 in 🖺 OMRON-GM SEE FO displayed on the left side of the OMRON-GM GUI screen for LinkManager NX01 (SM01) - 192.168.250.1 users, check that NX01 Omron - Ethernet PLC Agent 00C0A20377F2#00 Serial: Master: SM01
Created: 2020-09-17 12:26
Source IP: 106.154.78.98
Firmware: v09\_vendor\_620273044 (Controller) as a target device is selected. **Ů** Disconnect **≅** www Click the **Device** Tab on the right side of the screen, and then click Disconnect. Latency: Min: 141.5 ms, Avg: 152.6 ms, Max: 163.0 ms - Bandwidth:128 ዕ LinkManager: 💋 108,740 • 213,302 🚀 LinkManager secomea



### 7. Initialization Method

This guide assumes that each device is in the factory default settings.

Some procedures may not be applicable unless you use the devices with the factory default settings.

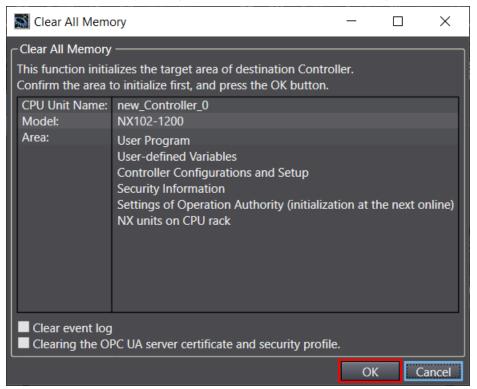
#### 7.1. Controller Initialization

To initialize a Controller, clear all memory of a CPU Unit.

Connect Controller and Personal computer to place Sysmac Studio online.

With Sysmac Studio, change the operating mode of Controller to PROGRAM mode and select *Clear All Memory* from the Controller Menu.

The Clear All Memory Dialog Box appears. Check the message and click **OK**.



#### 7.2. SiteManager Initialization

The following describe how to initialize a SiteManager by using the Reset switch.



#### **Precautions for Correct Use**

Do not use the Reset switch during the SiteManager startup (the STATUS LED is Steady RED blink). Otherwise, the initialization may not be performed normally.



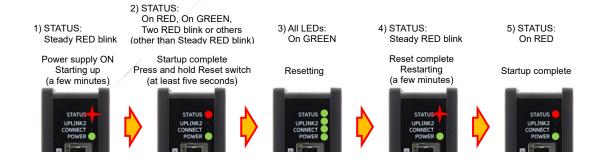


Front view of the RT100-W5M3010 model

- Step 1. Turn ON SiteManager and wait for a few minutes.
- Step 2. Check that the STATUS LED changes from Steady RED blink to On RED, On GREEN, Two RED blink or others.

  Press and hold Reset switch for at least five seconds.
- Step 3. SiteManager is initialized to factory defaults, and the reboot starts.
- Step 4. Wait a few minutes for the reboot to complete.
- Step 5. The initialization is completed when the STATUS LED changes from Steady RED blink to On RED.

By pressing Reset switch, the STATUS LED changes as follows:



# 8. Revision History

Revision code	Date of revision	Description of revision
01	November 2020	First release
02	November 2021	Updated screens Updated product images
		Minor changes