OMRON

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.



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.



A Caution

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 its m	Setting value			Domorko	
Setting item	(1) LAN connection	(2) 3G/4G connection	(3) WiFi connection	Remarks	
GateManager Address	(Information described in the e-mail sent to the user)			GateManager connection	
Domain Token	(Information described	d in the e-mail sent to the	user)	information	
Appliance Name	SM01 (It is determined	d by the user. SM01 is us	ed 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 / Ethernet PLC (They are selected from the pre-registered classifications in the SiteManager.)			Manufacturer name of the target device (Controller) / device type	
	Device IP & Parameters: 192.168.250.1 (The default value of the port 1 on the Controller 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 " . ", ", ", "? ", "!", " < ", " > " and " " ".	

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.





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.	GateManager GateManager Certificate for OMRON-GM-admin on 0000.secomea.ooo OMRON-GM-admin.gmc BOS bytes Hello XXXXX This mail contains your personal certificate for the Seconce OateManager The password associated with the certificate is: Save the attached file, OMRON-GM-admin gmc, in a document folder on your computer.
2	The URL to open the GateManager login screen is provided in the email. Click the URL <u>https://rt1-</u> gm01.automation.omron.com/	Hello XXXXX This mail contains your personal certificate for the Secomea GateManager administrator login. The password associated with the certificate is: ••••••••••• Save the attached file, OMRON-GM-admin gmc, in a document folder on your computer. Follow this link to the GateManager login screen Intps://t1.gm01.automation.omron.com/ (It is recommended to bookmark this page in your browser) The login screen will ask you to load the certificate file and enter the password. GateManager 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.
3	The browser starts up, and the GateManager login screen appears. Select the <i>Certificate</i> Option, and check the box for <i>Remember Certificate</i> . Click Choose .	Sign In Second Access Sign In Sign In



- 6 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.

Gatel secomed	GateManager			
Change pas	sword			
Select a new pass	word for your account.			
Username:	OMRON-GM-admin			
New password: Repeat password:	······································			
Continue	Show password	secumea		

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.

GateManager secumea	155.51
Login Failed	
One-time password has expired.	
Click Renew to receive a new one-time password.	
Renew Retry	
	secomea

7	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,	GateManager Secomed You must accept Terms of Use to login. You must accept the following Terms of Use before you can use the GateManager Server. Secomea GateManager General Terms of Use Hosting Server Terms of Use I have read and accept the General and Hosting Server Terms of Use. Email a copy of the terms to XXXXX@XXXX.XXX
	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.	Tree Domain Administrator: OMRON-GM-admin 000000 My Account About Logoff Image: State of the state of

6.2.3. Creation of LinkManager User Account

Create a LinkManager user account for GateManager login.





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.

1 Make sure Power supplies for SiteManager and Controller are OFF.





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 1 not connected to the internet via WiFi connection or other methods. Change the IP address and 2 × Internet Protocol Version 4 (TCP/IPv4) Properties subnet mask of Ethernet port on General Personal computer to belong to You can get IP settings assigned automatically if your network supports the same subnet as DEV ports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings. on SiteManager. In this guide, they are set as Obtain an IP address automatically follows: Use the following IP address: IP address: 10 . 0 . 0 2 255 . 255 . 255 . Subnet mask: 0 • IP address: 10.0.0.2 Default gateway: • Subnet mask: 255.255.255.0 Obtain DNS server address automatically *The IP address (default) of Use the following DNS server addresses: DEV1-DEV3 ports on Preferred DNS server: SiteManager is as follows: Alternate DNS server: • IP address: 10.0.0.1 Subnet mask: 255.255.255.0 Validate settings upon exit Advanced... *If SiteManager is not in the ОК Cancel factory default settings, initialize SiteManager by referring to Section 7. Initialization Method. Turn ON SiteManager and 3 check that the startup is completed. *The completion of startup can be checked by STATUS LED changing from Steady RED blink to On RED.

А	Start the browser on Personal	🖥 🗗 🗋 Certificate error: Naviga X + V – 🗆 X
4		
	computer, and go to	
	SiteManager (<i>https://10.0.0.1/</i>).	This site is not secure
	*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 (<i>https://10.0.0.1/</i>).	This might mean that someone's trying to fool you or steal any info you send to the server. You should close this site immediately. Go to your Start page Click Details to see the information. Details Your PC doesn't trust this website's security certificate. The hostmame in the website's security certificate differs from the website you are trying to visit. Error Code: DLG_FLAGS_INVALID_CA DLG_FLAGS_SEC_CERT_CN_INVALID Go on to the webpage (Not recommended)
		(The figure above is an example of when using Microsoft Edge.)
5	You are asked to enter your	Windows Security X
Ū	user name and password to	Microsoft Edge
	access SiteManager. Enter the	The server 10.0.0.1 is asking for your user name and password.
	following items and click OK .	That server also reports: "Login".
	 User name: <i>admin</i> Password: MAC address of SiteManager 	admin ••••••• OK Cancel
	*The MAC address is printed on the label attached on the side of SiteManager. In the example on the right, <i>00c0a206babe</i> is the password.	(The figure above is an example of when using Microsoft Edge.)



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	First time:			
	that need a Fix.	1. GateManag	er: Not	configured	Fix
	Click Fix for "1. GateManager"	Setup Assista	nt:		
			ote Access		
		SETUP •	System GateManager Routing DCM About • Troublesh	I Maintenance Status Log • HELP	
			RT100-EMM3010 - Setu	up Assistant	
		1. GateManager:	rt1-am1-test amron com 193 242 155 252	Connected to 193 242 155 252-443 (UPLINK)	Edit
		2. Uplink port:	10.74.118.77/21 (DHCP)	Up	Edit
		3. Uplink2 (Mobile broadba	nd):	Not Installed	Edit
		4. DEV port:	192.168.250.199/24		Edit
		5. Device Agents:	3 up		Edit
		6. Chat / Scratchpad:	Empty		Edit
		7. Admin Password:		Using default password (MAC address)	Fix
		You	u can open the Setup Assistant at any time by cli	icking on SETUP in the top menu.	
		No	te: If you click on HELP it shows specific help Please consult the online help as your first	o for the current configuration page. step in solving setup problems.	

2	As shown in the figure on the	
_	right, enter setting values in the	SETUP - System CateManager Politing DCM Maintenance Status Log - HELP
	following three fields.	About • Troubleshoot
	-	GateManager Settings - Setup Assistant
	GateManager Address	Help Continue Setup »
	 Domain Token 	GateManager connected: 193.242.155.252:443 (UPLINK)
	 Appliance Name 	Remote Management: Enabled
		GateManager Address: * xxx.xxx.xxx.xxx.xxx
	The setting values of the	Domain Token: * \000000000000000000000000000000000000
	GateManager address and	Web-proxy Address:
	domain token have been listed	Web-proxy Account:
	in Additional information of the	Web-proxy Password:
	email sent to you, which is	* = Mandatory field
	chain sent to you, which is	Save More >> Reconnect
	Shown in step 1 of 6.2.2.	Email that was sent to the user
	Password Setting for the	
	GateManager Administrator.	The certificate in this mail is issued to user "OMRON-GM-admin" in domain "OMRON-GM" on server "0000 secomea.ooo".
	Enter those setting values in the	Secomea appliances, such as a SiteManager, that should be administered by this account, or by LinkManager users created by this account, should be configured with the following GateManager settings:
	fields.	GateManager Address: xxxx.xxxx.xxxx Domain Token: XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
	In the <i>Appliance Name</i> Field,	For more information please check https://www.secomea.com.
	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.	

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.

1	Make sure	OMRON Remote	e Access		
_	an Internet-accessible Ethernet	SETUP • Sy	rstem GateManager Routing DCM About • Troublesh	Maintenance Status Log • HELP	
	cable is connected to UPLINK		RT100-EMM3010 - Setu	p Assistant	
	port on SiteManager.				
	Click Edit for	1. GateManager:	rt1-gm1-test.omron.com 193.242.155.252	Connected to 193.242.155.252:443 (UPLINK)	Edit
		2. Uplink port:	10.74.118.77/21 (DHCP)	Up	Edit
	2. Uplink port.	3. Uplink2 (Mobile broadband):		Not Installed	Edit
		4. DEV port:	192.168.250.199/24		Edit
		5. Device Agents:	3 up		Edit
		6. Chat / Scratchpad:	Empty		Edit
		7. Admin Password:		Using default password (MAC address)	Fix
		You car Note: I	n open the Setup Assistant at any time by clic f you click on HELP it shows specific help Please consult the online help as your first a	king on SETUP in the top menu. for the current configuration page. step in solving setup problems.	

2	The setting screen for the port		
4	(UPLINK) connected to the		
	internet appears. Select DHCP	CETUD - Curtery Catalynamics Down Maintenance Status Los - UELD	
	from the pull-down list in the	About - Troubleshoot	
	<i>Mode</i> Field. Click Save .	UPLINK - Setup Assistant	
	 *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 <i>IP</i> Address and Subnet Mask 	If this is the final location for the SiteManager, or you intend to move the SiteManager to another location that also assigns IP addresses via DHCP you do not need to do further. If the SiteManager is intended to have a fixed IP address, you should enter it here. Note that if you change the Uplink settings, you should not reboot the SiteManager until you are done with the configuration. Help Continue Setup > Mode: DHCP ✓ IP Address: 10.74.118.77 Reset Subnet Mask: 255.255.248.0 Default Gateway: 10.74.112.1 Ethernet Settings: Autonegotiation ✓ MTU Mode: Auto ✓ MTU: 1500 bytes [68-1500] Priority: First ✓ Probe Type: Any ✓ Probe Hosts:	
	Fields.	Probe Interval A: 10 seconds Probe Interval B: 60 seconds	
	After completing the settings.	Gaue	
	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,	STATUS •	
	that communication with	UPLINK2 CONNECT	
	GateManager is established.	POWER	
	• STATUS: UN GREEN		

(2) 3G/4G connection

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

_				
1	For model R1100-4G ensure	OMRON Remote Access		
	the 3G/4G antenna is	SETUP · System GateManager Routing DCM Maintenance Status Log · HELP About · Troubleshoot		
	connected to the antenna	RT100-EMM3010 - Setup Assistant		
	connector and that the SIM card			
	for 3G/4G communication is	1. GateManager: rt1-gm1-test.omron.com 193.242.155.252 Connected to 193.242.155.252.443 (UPLINK) Edit		
	inserted in SIM card slot.	2. Uplink port: 10.74.118.77/21 (DHCP) Up Edit 3. Uplink2 (Mobile broadband): Not Installed Edit		
		4. DEV port: 192.168.250.199/24		
	Click Edit for	5. Device Agents: 3 up Edit 6. Chet / Scratchpad: Empty Edit		
	2 Unlink? (Mabila broadband)	7. Admin Password: Using default password (MAC address)		
		You can open the Setup Assistant at any time by clicking on SETUP in the top menu.		
	*The figures on the right show	Note: If you click on HELP it shows specific help for the current configuration page.		
	the screenshots of the RT100-			
	W5M3010 model.			
	For other models the name			
	can be different.			
2	On the screen for 3G/4G			
2	connection settings set the			
	following items of connection	SETUP · System GateManager Routing DCM Maintenance Status Log · HELP		
	information Click Save	About • Troubleshoot		
	Information. Click Save.	UPLINK2 - Setup Assistant		
		If you intend to use a Mobile broadband modern, you should consider configuring the APN (Access Point Name) and PIN code of the SIM card in the modern now.		
	• APN	You will typically get the APN and PIN code together with the SIM card from the ISP. If a PIN code is not required, just enter 0000 to clear the "PIN code missing" message. If you leave the APN unconfigured (or if the one you configure doesn't work), all publicly known APNs for the provider of the installed SIM card will be tried (one at a time). If you do not have this information yet, you can configure it later here, or via the Appliance Launcher.		
	SIM PIN code			
	 User Name 			
	Password	Heip Continue Setup >		
		UPLINK2 option not installed.		
	*These items of connection	Mode: IP (and SMS) V		
	information are usually	WIFI Solo.		
	provided with the SIM card.	APN:		
	If you cannot find them,			
	contact your SIM card provider.	Subnet Mask: 255.255.255		
		Default Gateway: 0.0.0.0		
	After completing the settings	Priority: Second Prohe Tyne: Any		
	Alter completing the settings,	Probe Hosts:		
		Probe Port (TCP): 80 Probe Interval A: 180 seconds		
	I ne SEIUP screen in step 1	Probe Interval B: 0 seconds		
	appears again.	SMS Wakeup Parameters:		
		SMS Wakeup Secret: Wakeup		
		Password:		
		Save		
	After completing the settings, click Continue Setup . The SETUP screen in step 1 appears again.	Priority: Second ▼ Probe Type: Any ▼ Probe Hots:		



(3) WiFi connection

Make the settings of 3. Uplink2 (WiFi)



2 0	In the screen for WiFi					
— co	onnection settings, set the	OMBOU	Remote Acc	2000		
fc	llowing items of connection	S	ETUP • System	GateManager Routing DCM	I Maintenance	Status Log • HELP
in	formation. Click Save .			About - Troublest	noot ssistant	
	WiFi SSID		If you intend to the APN (Acces	use a Mobile broadband modem, yo ss Point Name) and PIN code of the	ou should consider o SIM card in the moo	configuring dem now.
	WiFi Key		You will typical If a PIN code is If you leave the known APNs fo	y get the APN and PIN code togethe not required, just enter 0000 to clea APN unconfigured (or if the one you or the provider of the installed SIM ca	er with the SIM card ar the "PIN code mis: u configure doesn't v ard will be tried (one	from the ISP. sing" message. vork), all publicly at a time).
*(i	Check the connection		If you do not ha the Appliance L	ave this information yet, you can cor auncher.	nfigure it later here, o	or via
(environment you use, and then set the items above			UPLINK2 is DOWN (UPLIN	Help Co	ontinue Setup »
Ň			Mode:			
A	fter completing the settings,		WiFi SSID: WiFi Key:	 		Scan
cl	lick Continue Setup.		IP Address:	0.0.0.0 Rese	t	
Т	he SETUP screen in step 1		Subnet Mask: Default Gateway:	255.255.255.255		
a	ppears again.		Priority:	Second 🗸		
			Probe Type:	Any 🗸		
			Probe Hosts: Probe Port (TCP):	80		
			Probe Interval A:	180 seconds		
			Probe Interval B:	0 seconds	-	
				Save		
3 C	heck that SiteManager is onnected to the internet and,					
w	ith the LEDs on SiteManager,					
th	nat communication with	STA	TUS			
G	ateManager is established.	UPLI CONN POV	NK2			

STATUS: On GREEN UPLINK2: On GREEN

NKZ: 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–		Access		
-	DEV3 ports to connect	SETUP • Sys	stem GateManager Routing DCM	Maintenance Status Log • HELP	
	Controller by following the steps		RT100-EMM3010 - Setu	p Assistant	
	below.				
	Click Edit for 4 DEV port	1. GateManager:	rt1-gm1-test.omron.com 193.242.155.252	Connected to 193.242.155.252:443 (UPLINK)	Edit
	Click Luit Iol 4. DEV polt.	2. Uplink port:	10.74.118.77/21 (DHCP)	Up	Edit
		3. Uplink2 (Mobile broadband):		Not Installed	Edit
		4. DEV port:	192.168.250.199/24		Edit
		5. Device Agents:	3 up		Edit
		6. Chat / Scratchpad:	Empty		Edit
		7. Admin Password:		Using default password (MAC address)	Fix
		You can Note: If	open the Setup Assistant at any time by clic you click on HELP it shows specific help Please consult the online help as your first s	king on SETUP in the top menu. for the current configuration page. step in solving setup problems.	

2	Change the IP address and	
-	subnet mask of DEV1–DEV3	OMRON Remote Access
	ports to belong to the same	SETUP • System GateManager Routing DCM Maintenance Status Log • HELP About • Troubleshoot
	subnet as Controller.	DEV1 - Setup Assistant
	In this guide, the following	The SiteManager can monitor devices both on the Uplink and Dev interface.
	values are set.	If you intend to only monitor devices in the network of the Uplink side, you do not need to do configure the DEV interface.
		If you intend to monitor devices connected to the DEV interface, you should define the SiteManager's DEV interface with an IP address in the same subnet as your device,
	• IP Address: 192.168.250.10	and with the same subnet mask. Examples:
	• Subnet Mask: 255.255.255.0	 Device IP address: 192.168.2.10 / 255.255.255.0 - suggested DEV IP address: 192.168.2.1 / 255.255.0 Device IP address: 10.100.101 / 255.255.0 - suggested DEV IP address: 10.100.10.233 / 255.255.0.0
	*The IP address (default) of Port	You must ensure that the DEV address of the SiteManager does not conflict with other equipment in the network. If you attach the device directly to the DEV port of the SiteManager (instead of via a switch), you only have to ensure that the DEV IP address and the device address is not the same.
	1 on Controller is as follows:	Note that if you change the DEV IP settings, you should not reboot the SiteManager until you are done with the configuration.
	 IP address: 192.168.250.1 	Help Continue Setup »
	 Subnet mask: 255.255.255.0 	IP Address: 192.168.250.10
		Subnet Mask: 255.255.255.0 Auto Subnet Agent: Enabled 🗸
	Click Save .	Cable Quirk Settings: WA1+WA2 Proxy ARP: Disabled
		WIFISSID
		WIFI Key:
		Salo visionity: Visione V
		WIFI Mode: Client See System > UPLINK2 for client settings 802.11 Mode: 802.11b/g/n Channei: 1 1 [1-13] TX Power: 0 Save DHCP >> DNS >>
2	After completing the IP address	
5	settings, reboot SiteManager to	
	reflect the set IP address.	About - Troubleshoot
	Click Maintenance on the menu	RT100-EMM3010 - Setup Assistant
	bar.	
Δ	The Maintenance screen	
-	appears. Click Reboot .	OMRON Remote Access
		SETUP • System GateManager Routing DCM Maintenance Status Log • HELP Maintenance Info • Password • Reboot • Upgrade • Export Import Reset
		Password: Change password of the admin account. Always change the password in connection with first-time configuration. The password must be minimum 8 characters long and contain at least 1 non-alphabetic character. Further recommendations are in the on-line help.
		Reboot: Reboot the appliance. Note: Rebooting clears the contents of the logs.
		If you want to keep the contents of a particular log, before you reboot you can use Log > View for the log and copy its contents to a file.
		Upgrade: Upgrade firmware.
		Export: Export configuration.
		Reset: Reset configuration to factory defaults.

 5 A confirmation dialog box appears. Confirm that there is no problem, and click Reboot. 6 The SiteManager reboot starts. The link to connect to the new address is displayed. 	ONRON Remote Access SETUP · System GateManager Routing DCM Maintenance Status Log · HELP Maintenance Info · Password · Reboot · Upgrade · Export Import Reset Confirm Reboot Reboot SETUP · System GateManager Routing DCM Maintenance Status Log · HELP Maintenance Info · Password · Reboot · Upgrade · Export Import Reset Reboot Reboot Vour browser will automatically reconnect when the appliance has rebooted.
 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 	Internet Protocol Version 4 (TCP/IPv4) Properties X General You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings. Qbtain an IP address automatically @ Uge the following IP address:
8 Check that the SiteManager reboot is completed. When completed the STATUS LED will be GREEN.	SETUP • System GateManager Routing DCM Maintenance Status Log • HELP Maintenance Info • Password • Reboot • Upgrade • Export Import Reset Rebooting Vour browser will automatically reconnect when the appliance has rebooted.



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			
1		OMRON Remote Access		
	Controller, click Fix for 5.	SETUP • System GateManager Routing DCM Maintenance Status Log • HELP About • Troubleshoot		
	Device Agents on the SETUP	RT100-EMM3010 - Setup Assistant		
	screen for SiteManager.			
		1. GateManager: rt1-gm1-test.omron.com 193.242.155.252 Connected to 193.242.155.252.443 (UPLINK) Edit		
		2. Uplink port: 10./4.118.///21 (UHCP) Up Edit 3. Uplink2 (Mobile broadband): Not installed Edit		
		4. DEV port: 192.168.250.199/24		
		5. Device Agents: No agents defined		
		6. Charl / Scratchpad: Empty Edit 7. Admin Password: Using default password (MAC address) Fix		
		You can open the Setup Assistant at any time by clicking on SETUP in the top menu.		
		Note: If you click on HELP it shows specific help for the current configuration page.		
		Please consult the online help as your first step in solving setup problems.		
2	The dialog box on the right	OMRON Remote Access		
_	appears. Click New to configure	SETUP • System GateManager Routing DCM Maintenance Status Log • HELP		
	an agent.	GateManager Agents - Setup Assistant		
		You can configure an agent to monitor a device connected to the SiteManager Serial port		
		and TCP/IP enabled devices located on either the DEV network or Uplink network of the SiteManager.		
		and select a suitable device type (first vendor, then model). Then click on an to specify the device type (first vendor, then model). Then click on an to specify the device address and other relevant parameters.		
		The SiteManager will instantly try to connect to the device, and if successful the Agent will on IDLE and appear on the GateMananer and any LinkMananer that have been granted access to the		
		general and appendix the meric operation generation of the strength and the strength of the Strength and the strength of the Strength and the strength of the		
		the GateManager and subsequently not on LinkManagers either.		
		Help Continue Setup >		
		Usino 0 of 10 agents		
		Refresh New Search		
	The Agent Setur coreon			
3		OPPOD		
	appears. Enter a name for	SETUP + System GateManger Routing DCM Maintenance Status Log + HELP 4004 - Trousenoot		
	Controller management in the	GateManager Agents - Setup Assistant		
	Device Name Field, e.g. NX01.	You can contigue an append to tamosteria divide concentration to ESMLAnapper Marka Joo and TCSIIP enabled devices located on ether the DSV network or Uplick network of the Stellanapper CLIC is level and up the Apact and annu filth canne will be work the Unikhanapper can will steel.		
	Select Omron (manufacturer	and seried a subble service tope (fast vendor them model). The click on gen to specify the device address and other relevant parameters. The Basknews will instantly by connect the device, and if successful the Apert will		
	name) and the <i>Ethernet PLC</i>	do DLE and societé of the desaillanger and any universative that have been granted access to the dorman of the disalianger. If not pucketabli, the Agent will report any the agent will not be registered on the disaliangers and publicagent norm of universative terms.		
	(device type) from the pull-down	Press the [Search] button to search for Ethernet devices that are not yet handled by any Agent.		
	list in the <i>Device Type</i> Field.	Using 1 of 10 spens		
	Enter 192.168.250 1 (Controller			
	IP address) in the Device IP ?			
	Deremotore Field			
	Click Save.			



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.

\land 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.

1	Open the received email with	GateManager
-	the attached Certificate, which	
	is shown in step 4 of 6.2.3.	It is used in step 5.
	Creation of LinkManager User	
	Account, and save Certificate	This mail contains your personal certificate for the Secomea LinkManager user login. The password associated with the certificate is:
	on Personal computer.	Save the attached file, LM-User01.lmc, in a document folder on your computer.
2	The URL to open the	Hello XXXXX
-	GateManager login screen for	This mail contains your personal certificate for the Secomea LinkManager user login. The password associated with the certificate is:
	LinkManager users is provided	Save the attached file, LM-User01.lmc, in a document folder on your computer.
	in the email. Click the URL	Follow this link to the LinkManager login screen https://rt1-gm01.automation.omron.com/lm (It is recommended to bookmark this page in your provident
	https://rt1-	The login screen will ask you to load the certificate file and enter the password.
	gm01.automation.omron.com/Im	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.
	The browser starts up, and the	
	GateManager login screen for	
3	LinkManager users appears.	Remote Access
	Select the Certificate Option	Gerard.Imc 🗸
	and then Browse .	low.
		Login
		Forgot password?



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 ".", ", ", ", ", ", ", ", ", ", ", ", ", "	LinkManager Select a new password Select a new password for your account. Username: LH-User01 New password: Image password Select a new password: Image password New password: Image password Image p
	time password by following the procedure in step 6 of 6.2.2. Password Setting for the GateManager Administrator.
7 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.	Linck Manager Secomea Vou must accept Terms of Use to login. You must accept Terms of Use before you can use the GateManager Server. Secomea GateManager General Terms of Use Hosting Server Terms of Use I have read and accept the General and Hosting Server Terms of Use. I have read and accept the General and Hosting Server Terms of Use. Image Terms to XXXXX @ XXXXX.XXX Continue Logout



6.4.2. Connection Between the Personal Computer and the Controller

Connect your personal computer and the Controller.



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.



 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. The Auto Connect Project Dialog Box appears showing offline status 	× ••
 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. The Auto Connect Project Dialog Box appears showing offline status 	- □ ×
 After the Controller restarts, please connect to the Controller again. *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 	× ••
 *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 	×
 *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 	×
6 The Auto Connect Project Dialog Box appears showing offline status	×
Dialog Box appears showing	▲ 이 및 문 . × · · · · ·
	т. т. ф
Ominine Status. Municipations and Setup Programming Baild Baild * * * * Programming I Description I Description Program I Titer Output	d>>
7 Check that the Controller	
startup is completed.	
Select Online from the Change Device	
Controller Menu. Online Ctrl+W	
Offline Ctrl+Shift+W	
The Auto Connect Project Auto Connect Project Auto Connect Project - new_Controller_0 - Sysmac Studio (32bit)	- 🗆 X
Dialog Box shows online status.	<u></u>
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	Iter Status

6.4.4. LinkManager User Logoff

Exit Sysmac Studio and log off the LinkManager user.





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.

Clear All Memory -				×		
Clear All Memory						
This function initializes the target area of destination Controller. Confirm the area to initialize first, and press the OK button.						
CPU Unit Name:	new_Controller_0					
Model:	NX102-1200					
Area:	User Program User-defined Variables Controller Configurations and Setup					
	Security Information Settings of Operation Authority (initializa	ntion at t	he next c	online)		
	NX units on CPU rack					
Clear event log Clearing the OPC UA server certificate and security profile.						
<u> </u>		Oł	< C	ancel		

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.

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

8. Revision History

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

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