

MONITOUCH

Web Machine Interface

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- 1 VPN Remote Access Service



Record of Revisions

Reference numbers are shown at the bottom left corner on the back cover of each manual.

Date	Reference No.	Revised Contents
February, 2015	1075NE0	First edition

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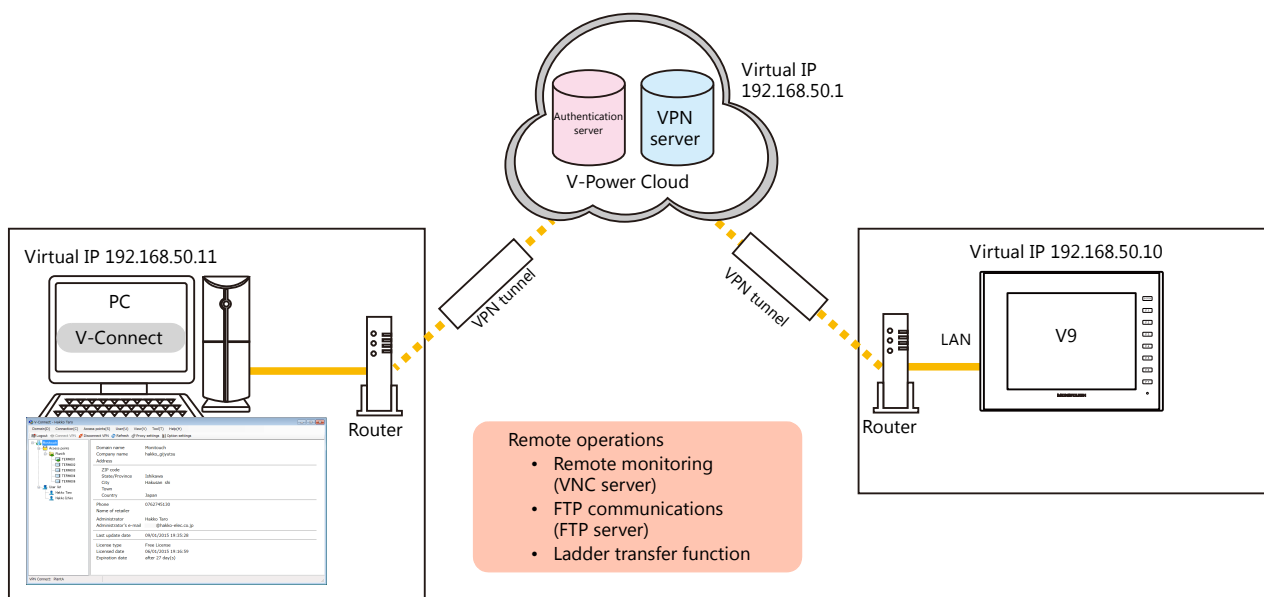
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1 VPN Remote Access Service

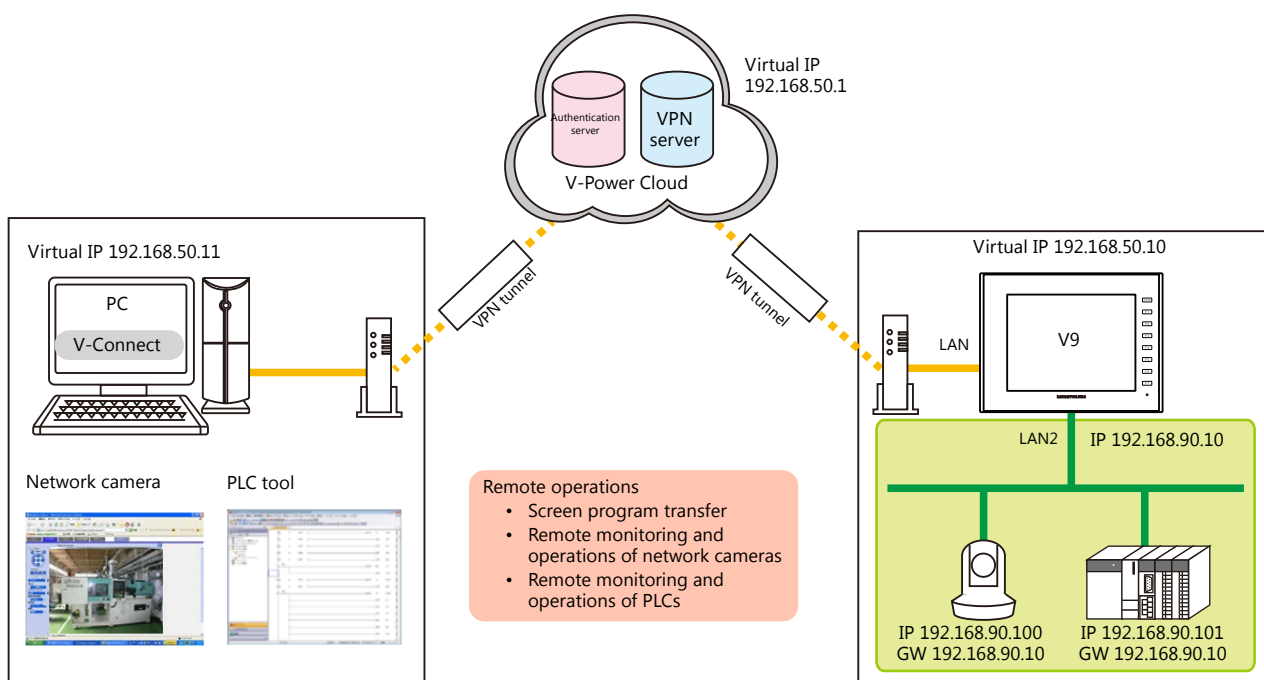
1.1 Overview

1.1.1 VPN Remote Access Service

- Easily enables remote access using V-Power Cloud (VPN server/authentication server) and V-Connect (management tool) that are prepared by Hakko Electronics.
- Configurable by simply preparing an Internet-connected environment.
Prepare an environment that can perform communications using encryption protocols including HTTPS. There may be severe restrictions on the use of encrypted communications in your country or region. Operation is not guaranteed in such countries or regions.
- Supports SSL-VPN to ensure safe remote access without any risk of eavesdropping or manipulation.



- Routing function (LAN2CH/3CH types only)
Because the V9 series unit features a built-in routing function, devices on the local network can also be accessed.



* GW: Gateway

- Remote operations available when connected to a VPN
Remote operations are performed using the relevant software.

Remote Operation	Relevant Software
Screen program transfer	V-SFT-6
Remote monitoring and operation of V9 series units (VNC server function)	VNC client tool
FTP communications (FTP server function)	FTP client tool
Remote monitoring and operation of PLCs connected via serial connection to V9 series units (ladder transfer function)	LadderComOp PLC ladder tool
Remote management of V9 series units	TELLUS and V-Server (under development)
Remote monitoring and operation of network cameras on the local network where the V9 series unit is located	Network camera tool
Remote monitoring and operation of PLCs on the local network where the V9 series unit is located	PLC ladder tool

1.1.2 Applicable Models

The VPN remote access service can be used with the following versions and ports.
For older versions, perform an OS and system updates as required.

V9	V9 Series Unit Version		VPN Connection Port *			
	OS	SYSTEM	LAN	LAN2	WLAN	CUR-03
V9 Advanced	Ver. 1.10 or higher	Ver. 1.060 or higher	○	○	○	×
V9 Standard			○	○	○	×
V9 Lite			○	-	-	×

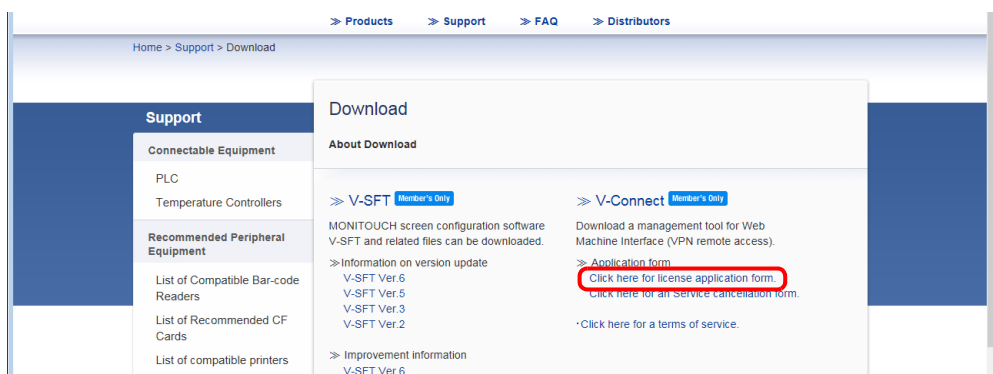
* Only one port is used for VPN connection. The other ports are used to connect to the local network.

1.1.3 License

A license must be purchased in order to use the VPN remote access service.
The following table lists the license types and available number of access points and VPN terminal registrations.

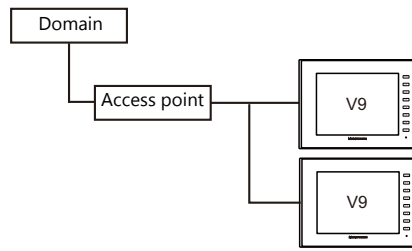
Item	License				
	Free *1	Value	Simple	Wide	Extra
Access points *2	1	1	1	Unlimited	Unlimited
VPN terminals (V9)	5	10	30	100	Unlimited
Number of registered users	20	20	20	20	20
Connection type *3	1:1	○	○	○	○
	1:n				
	1:n.m				
	n:n	×			

*1 A free license can be registered using the “V-Connect” management tool. The free license provides 30 days of use from the date of registration free of charge. To continue use after 30 days, switch to a paid license.
Switch to a paid license by downloading the application form for a paid Web Machine Interface license, entering the required information, and submitting the form to your local retailer.
<http://monitouch.fujielectric.com/site/support-e/download-index-01.html>

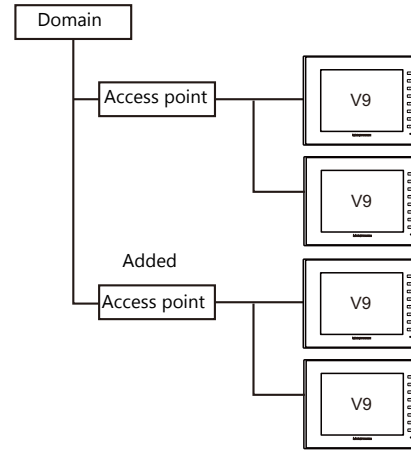


*2 Access points

- Without additional access points

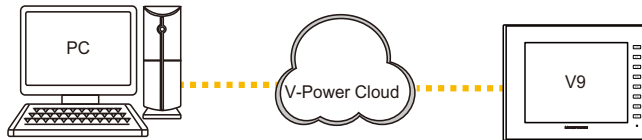


- With an additional access point

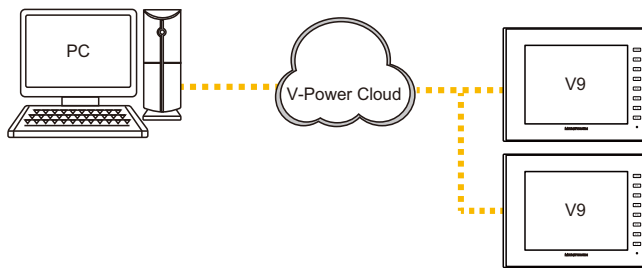


*3 Connection type

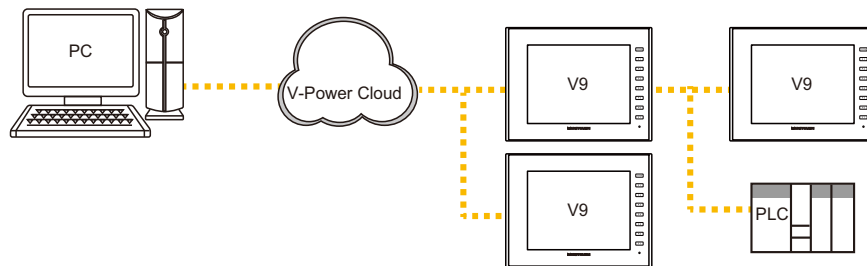
- 1:1



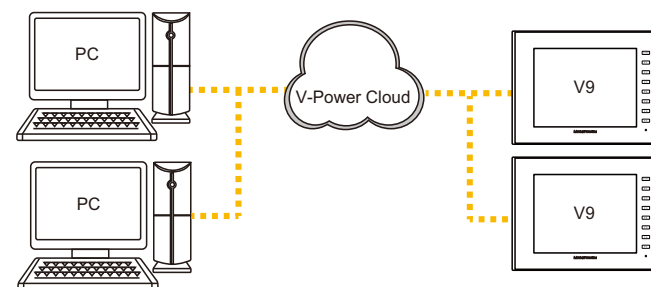
- 1:n



- 1:n:m

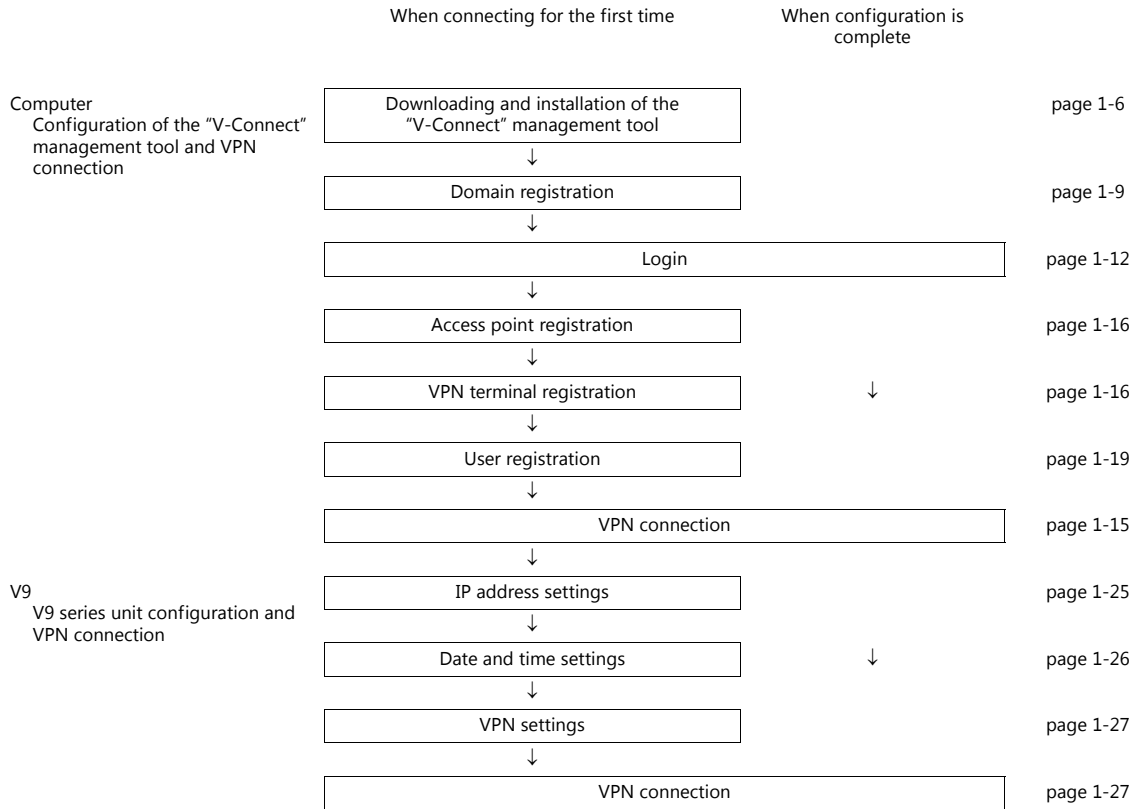


- n:n



1.2 VPN Connection Sequence

The sequence of configuration for connecting a computer and V9 series unit to the VPN is shown below. The "V-Connect" management tool (Ver. 1.1.0.0) must be installed on the computer.



1.3 V-Connect Management Tool

1.3.1 Operating Environment

Make sure that your system meets the following system requirements before starting V-Connect (version 1.1.0.0).

Computer	PC/AT compatible computer running Windows
OS *	Windows 7 (32-bit, 64-bit) / 8 (32-bit, 64-bit) / 8.1 (32-bit, 64-bit)
CPU	Min. 1.0GHz
Memory	Min. 1.0 GB for 32-bit, min. 2.0 GB for 64-bit
Hard disk	At installation: Min. 1.0 GB for 32-bit, min. 2.0 GB for 64-bit
Display resolution	1024 × 768 dots (XGA) or higher
Display colors	High color (16-bit) or higher

* Administrator privileges are required for installation.

Software Copyrights

- The software as well as its copyright and any other copyrights and rights related to the software are property of Hakko Electronics Co., Ltd.
- The software may not be used or copied, whether in whole or in part, without permission of Hakko Electronics Co., Ltd.
- The specifications and components of the software are subject to change without prior notification.
- Hakko Electronics Co., Ltd. bears no responsibility for any results of using the software.
- Windows is a registered trademark of Microsoft Corporation in the United States.
- All other product names are trademarks or registered trademarks of their respective holders.

Notes on Usage

- The software may not be correctly installed if resident programs and applications such as an antivirus program are running. Be sure to close all applications before installing the software.

1.3.2 User Types and Privileges

The following table lists the types of users that can operate V-Connect and the corresponding user privileges.

Item		User Type and Privileges		
		Domain Administrator	Administrator	Normal User
Domain	Register domain		×	×
	Modify Domain			
Connection	Connect VPN			○
	Disconnect VPN			
Access points	New access point		○	
	Delete access point			×
	Modify access point			
User	New user		○	
	Delete user			×
	Modify user	○	*1	
	Change user password			
View	Show domain			○
	Refresh			
	Log info (for management)			×
	Log information (for VPN connection)		○	○
Tool	Proxy settings			
	Option settings			○
Help	About			

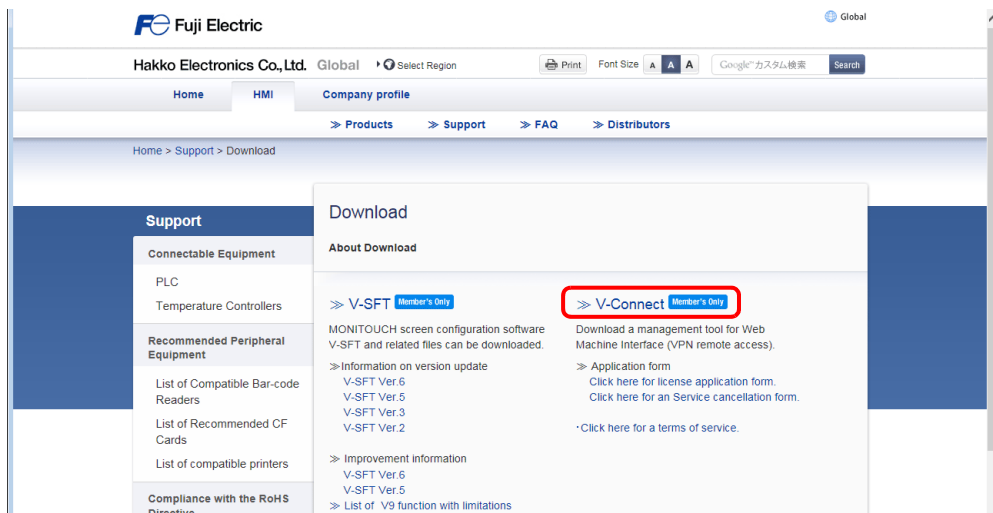
*1 Registration, deletion, and modification of other administrator accounts and modifying the privileges of normal users cannot be performed.

1.3.3 Installation

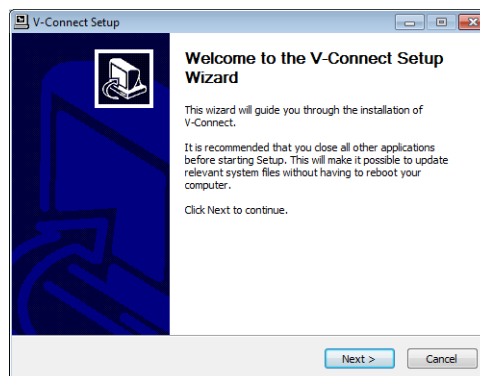
Procedure

Example: Windows 7

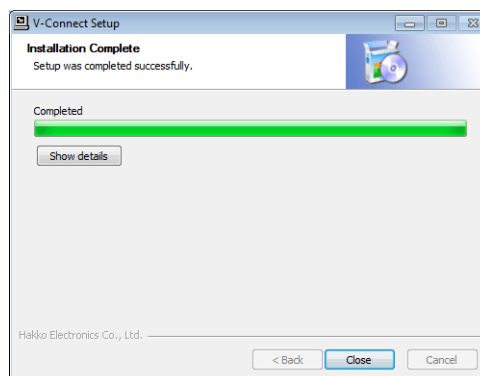
1. Download the "V-Connect Ver. 1.1.0.0" management tool from the Hakko Electronics website.
 URL: <http://monitouch.fujielectric.com/site/support-e/download-index-01.html>
 * User registration is required to download the software.



2. Double-click on the downloaded file to start the installation process.



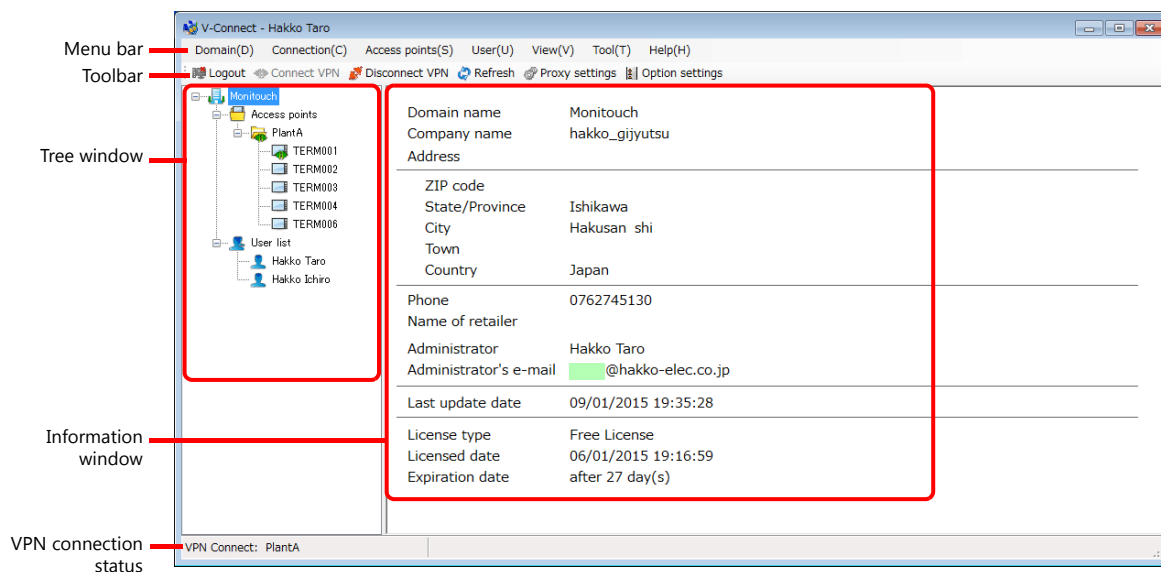
3. Proceed according to the displayed instructions and when the [Installation Complete] window appears, click [Close].



This completes the installation procedure. The software can be started from the Start menu.

1.3.4 V-Connect Configuration

Names of Parts



Menu Bar

Domain(D) Connection(C) Access points(S) User(U) View(V) Tool(T) Help(H)

Item	Description	Refer to
Domain	Modify Domain	Modify registered domain information.
	Logout	Log out.
Connection	Connect VPN	Establish a VPN connection with the selected access point.
	Disconnect VPN	Disconnect the current VPN connection.
Access points	New access point	Register an access point and VPN terminal (V9).
	Delete access point	Delete an access point and VPN terminal (V9).
	Modify access point	Change access point and VPN terminal (V9) settings.
User	New user	Perform user registration.
	Delete user	Delete a user.
	Modify user	Modify user settings.
	Change user password	Change a user password.
View	Show domain	Display domain information.
	Refresh	Obtain information on the current domain from the authentication server and display it.
	Log info	Check V-Connect operation logs and VPN connection history.
Tool	Proxy settings	Configure proxy settings.
	Option settings	Configure tool operation.
Help	About	Check the V-Connect version information and license agreement.

Toolbar

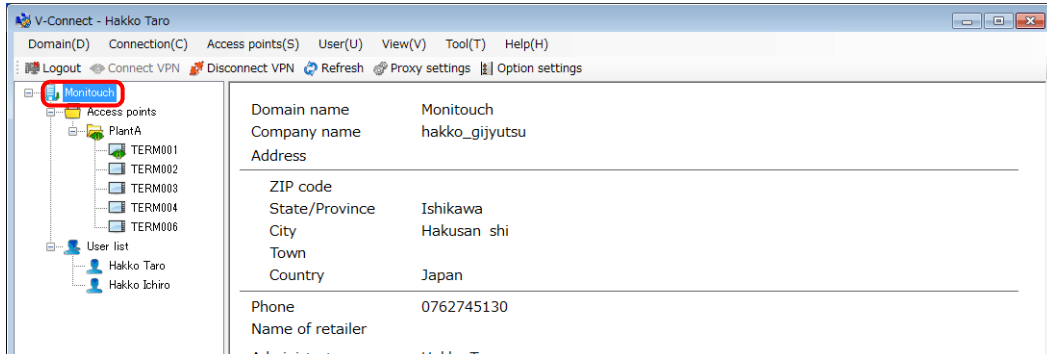
Logout Connect VPN Disconnect VPN Refresh Proxy settings Option settings

Item	Description	Refer to
Logout	Log out.	page 1-14
Connect VPN	Establish a VPN connection with the selected access point.	page 1-15
Disconnect VPN	Disconnect the current VPN connection.	
Refresh	Obtain information on the current domain from the authentication server and display it.	page 1-21
Proxy settings	Configure proxy settings.	page 1-23
Option settings	Configure tool operation.	

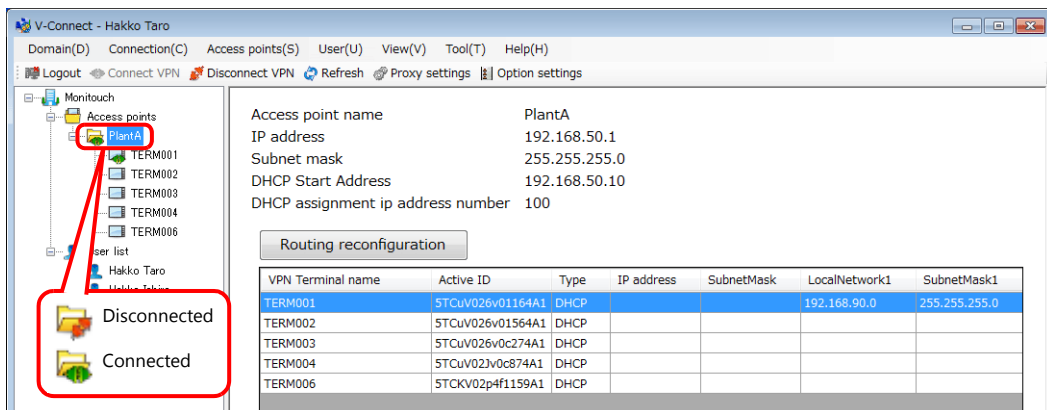
Tree Window/Information Window

The details of the item selected in the tree window can be checked in the information window.

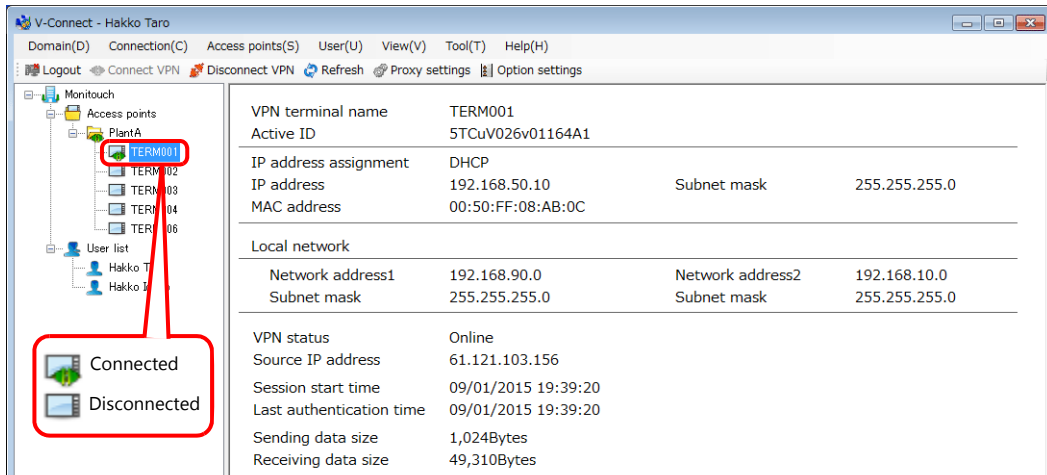
- Domain



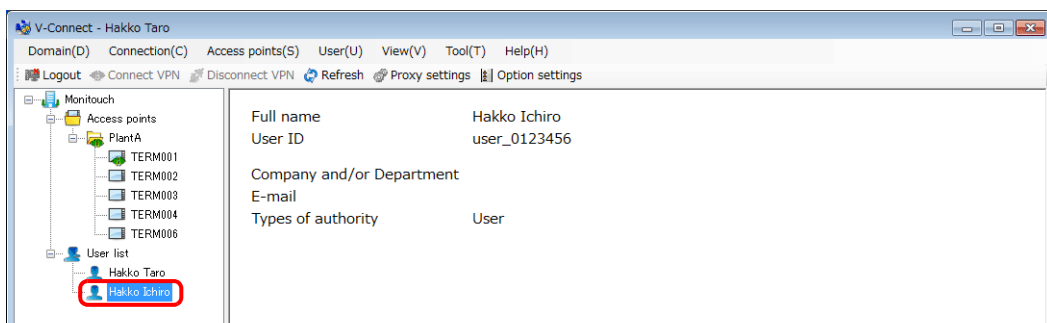
- Access points



- VPN terminals



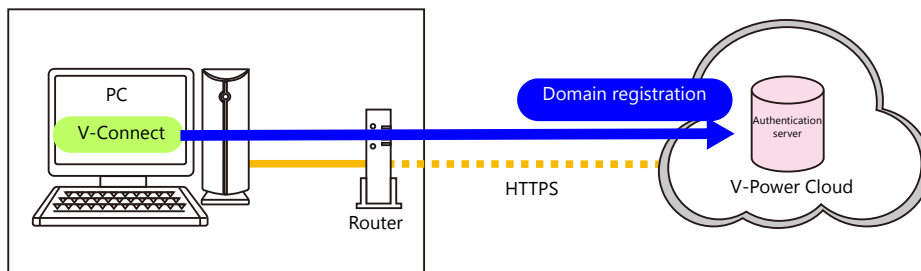
- Users



1.3.5 Domain

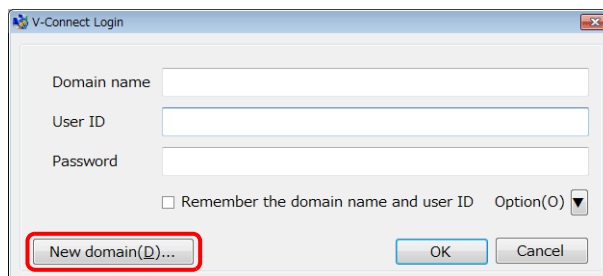
Registering a Domain

Use the "V-Connect" management tool to register domain information to the "V-Power Cloud" authentication server. Domain registration must be performed by a domain administrator.



Procedure

1. Start V-Connect.
2. Click the [New Domain] button.

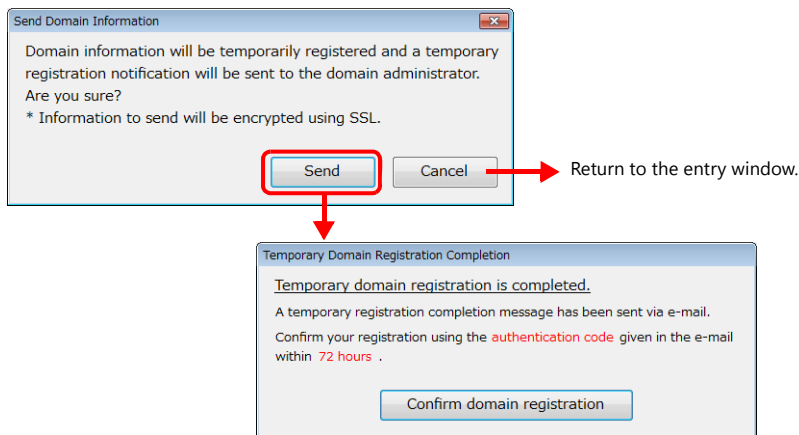


3. Enter the information required to register a domain and click the [OK] button. An asterisk (*) denotes a mandatory field.

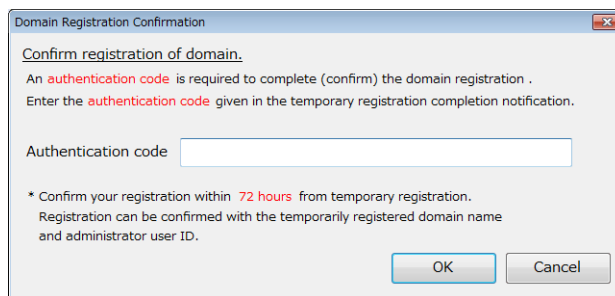
Item	Max. Characters	Remarks
Domain information	Domain name	4 to 16 One-byte alphanumeric characters (case-sensitive) Symbols: !, #, \$, %, &, -, ^, @, ., and _
	Country	-
	Company name	100 Maximum of 100 one-byte or two-byte characters
	Phone	30 One-byte numerals Symbols: (,), -, +, _, ., and space
	ZIP code	20 One-byte alphanumeric characters (case-sensitive) Symbols: -, ., and space
	State/Province	60 Maximum of 60 one-byte or two-byte characters
	City	120 Maximum of 120 one-byte or two-byte characters
	Town	120 Maximum of 120 one-byte or two-byte characters
Name of retailer	100 Maximum of 100 one-byte or two-byte characters	

Item		Max. Characters	Remarks
Administrator information	User ID	8 to 20	One-byte alphanumeric characters (not case-sensitive) Symbols: #, %, &, -, ., and _
	Password	6 to 20	One-byte alphanumeric characters (case-sensitive) Symbols: #, %, &, -, ., and _
	Password (Confirm)		
	Company and/or Department	100	Maximum of 100 one-byte or two-byte characters
	Full Name	60	Maximum of 60 one-byte or two-byte characters
	E-mail address	256	
	E-mail address (Confirm)		

- Click [Send] in the [Send Domain Information] dialog box. A message indicating that temporary domain registration is complete is displayed.
To revise the entered information, click [Cancel] to return to the entry window. An error message is displayed if there is a mistake in the information for registration. Correctly enter the information and try again.

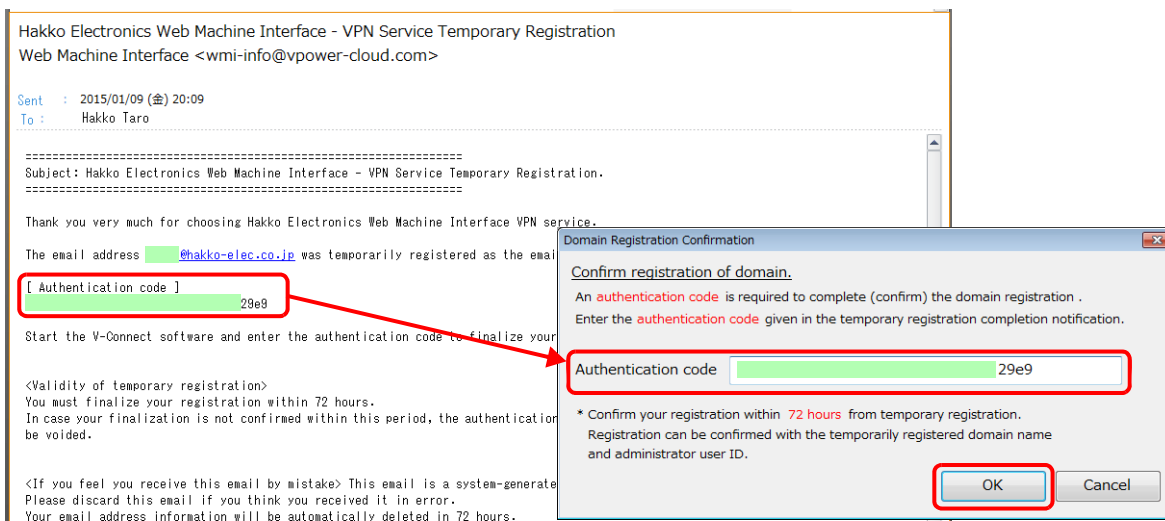


- Click the [Confirm domain registration] button. The [Domain Registration Confirmation] window is displayed.



- Check that the administrator receives an email with the subject "Hakko Electronics Web Machine Interface - VPN Service Temporary Registration".

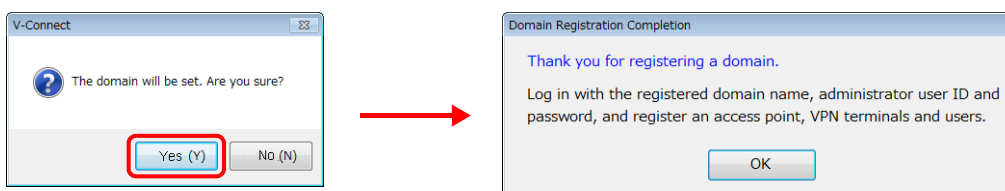
7. Copy the authentication code in the email and paste it into the [Authentication code] field in the [Domain Registration Confirmation] window.
Click [OK].



Period of temporary registration validity

If the email indicating that temporary registration is complete cannot be checked right away, registration can be completed at a later time by closing V-Connect with the [Cancel] button. However, note that the validity period of temporary registration is 72 hours. If registration is not completed within 72 hours, both the authentication code and temporary registration information are invalidated.

8. Click [Yes] in the confirmation window. A registration complete message is displayed.

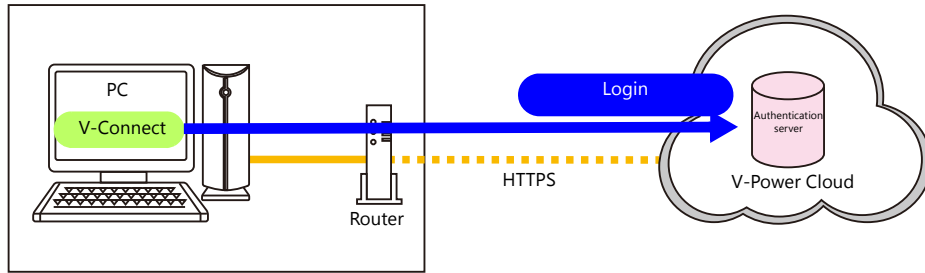


This completes the registration process.

Login

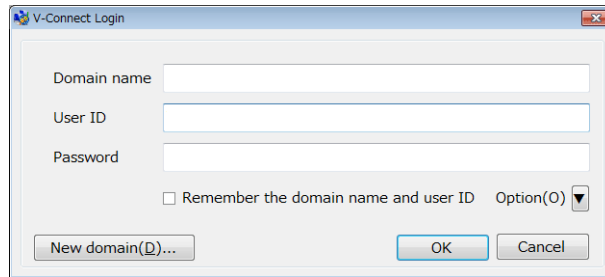
Log into the “V-Power Cloud” authentication server from the “V-Connect” management tool.

* Always log in using the administrator ID immediately after domain creation.

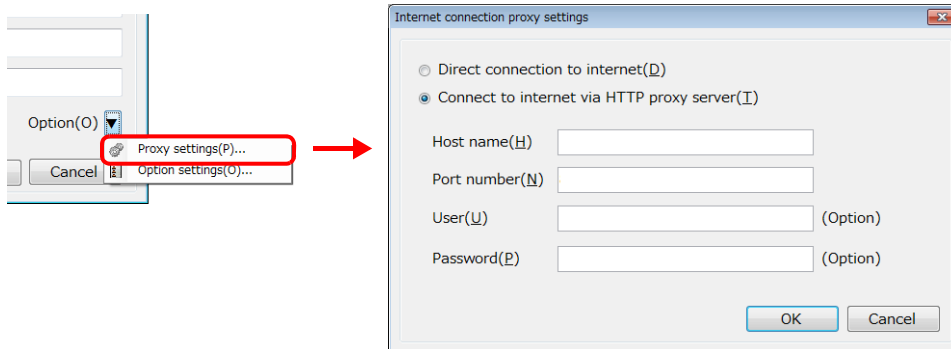


Procedure

1. Start V-Connect.
2. Enter the information (domain name/user ID/password) for the registered domain.
To avoid having to enter the domain name and user ID from the next time V-Connect is started, select the [Remember the domain name and user ID] checkbox.



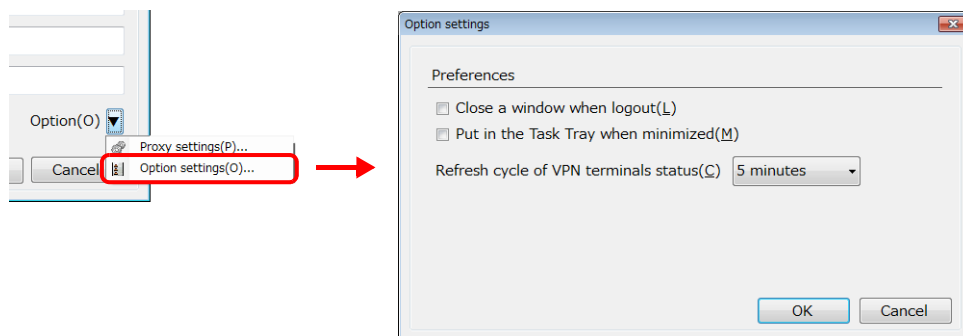
3. Configure the proxy settings and option settings.
 - Proxy settings
Configure these settings when connecting to the Internet via a proxy server.



Item	Description	
Direct connection to internet	Connect to the Internet directly without using a proxy server in cases such as when connecting to a mobile router.	
Connect to internet via HTTP proxy server *1	Host name	Set the IP address of the proxy server.
	Port number	Set the port number of the proxy server.
	User	Set the user ID for logging into the proxy server.
	Password	Set the password for logging into the proxy server.

*1 For information on proxy server settings, consult your network administrator.

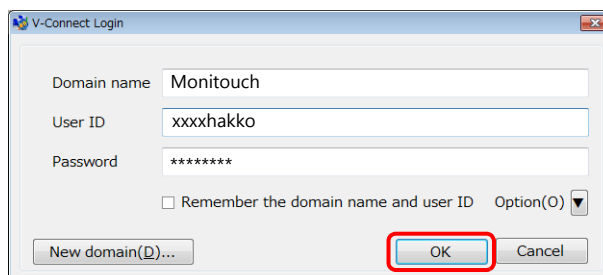
- Option settings
Configure V-Connect operation.



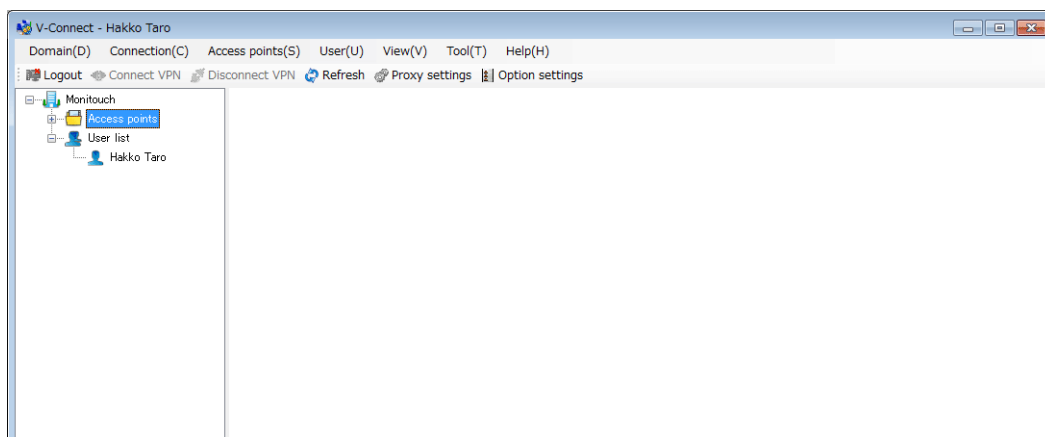
Item	Description
Close a window when logout	Selected: Close V-Connect after logging out. Unselected: Return to the V-Connect login window after logging out.
Put in the Task Tray when minimized	Selected: Display a management tool icon in the task tray when the window is minimized. Unselected: Display the management tool on the task bar when the window is minimized.
Refresh cycle of VPN terminals status	Set the cycle for refreshing the status of VPN terminal icons in the tree window. The information window is also refreshed when a VPN terminal is selected. None (no automatic refresh) ^{*1} /1 minute/5 minutes/10 minutes/30 minutes/60 minutes

*1 Refresh the status by clicking [View] → [Refresh].

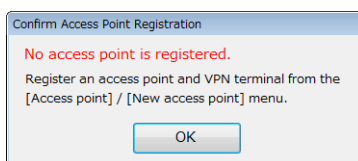
- Return to the [V-Connect Login] window and click [OK].



- The following window is displayed after successfully logging in.



The following message is displayed if there are no registered access points. Register an access point, VPN terminals, and users.



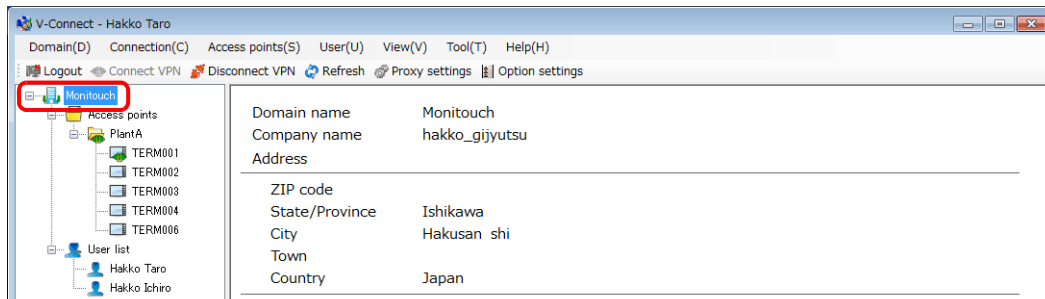
Modifying the Domain

Modify registered domain information.

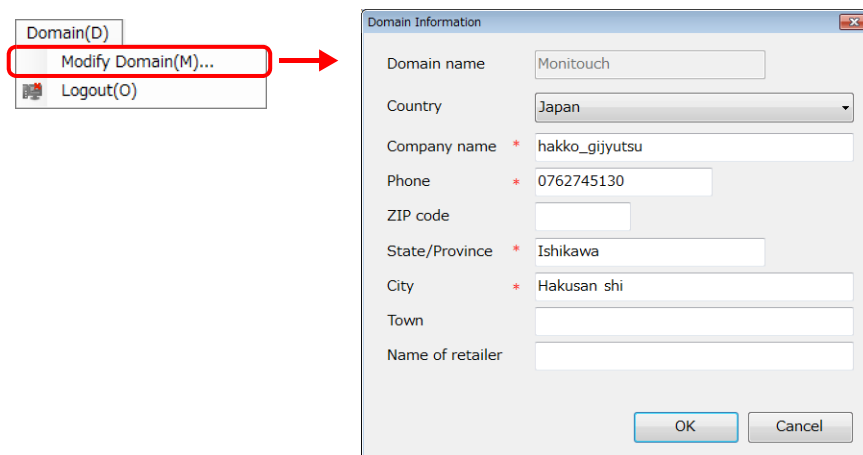
- * Only the domain administrator can perform modifications.

Procedure

1. Select a domain in the tree window.



2. Click [Domain] → [Modify Domain]. The [Domain Information] window is displayed.



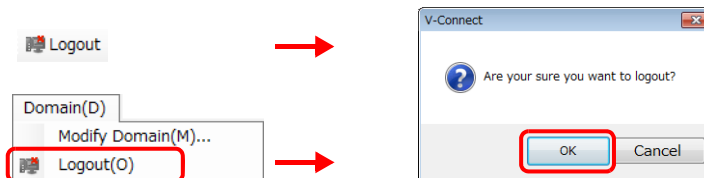
3. Perform any modifications and click [OK] when finished.

Logout

Log out of V-Connect. If a VPN connection is established, the software also disconnects from the VPN.

Procedure

1. Click the [Logout] icon or [Domain] → [Logout]. A confirmation dialog box is displayed.

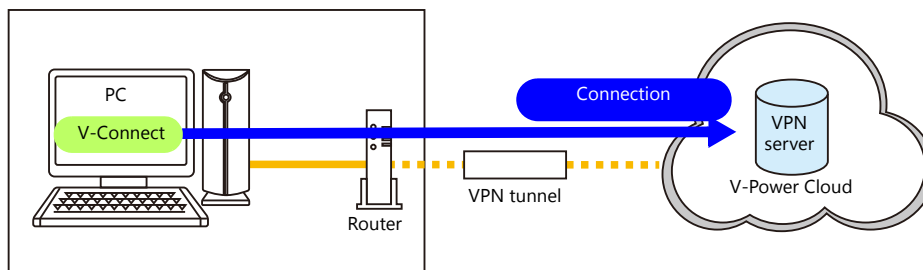


2. Click [OK] to log out.

1.3.6 Connection

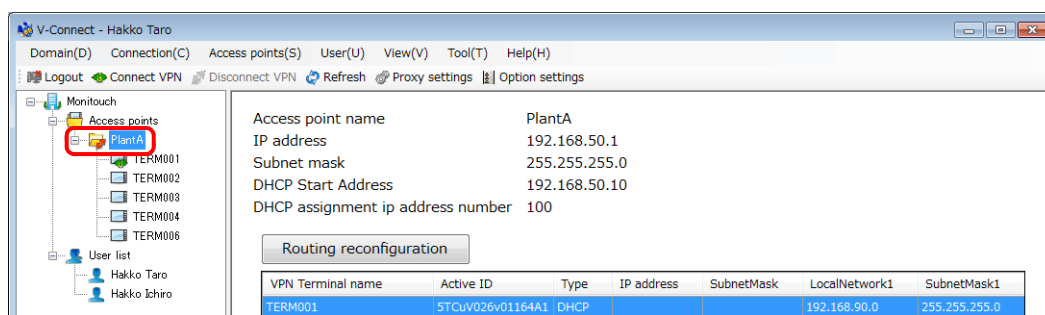
Establishing a VPN Connection

Connect the "V-Connect" management tool to the "V-Power Cloud" access point.

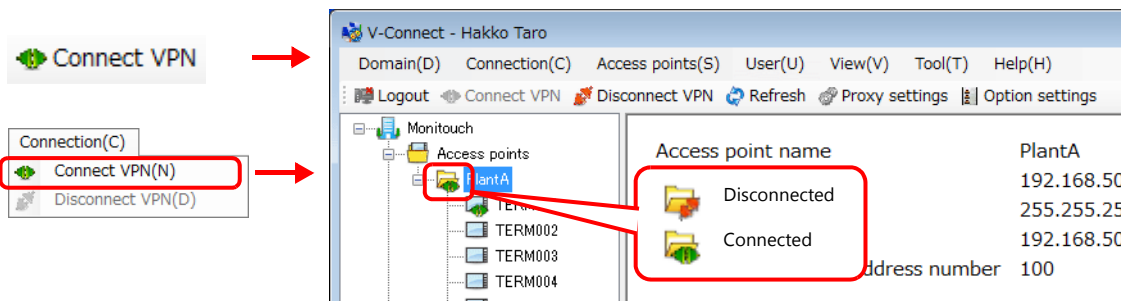


Procedure

1. Select an access point in the tree window.



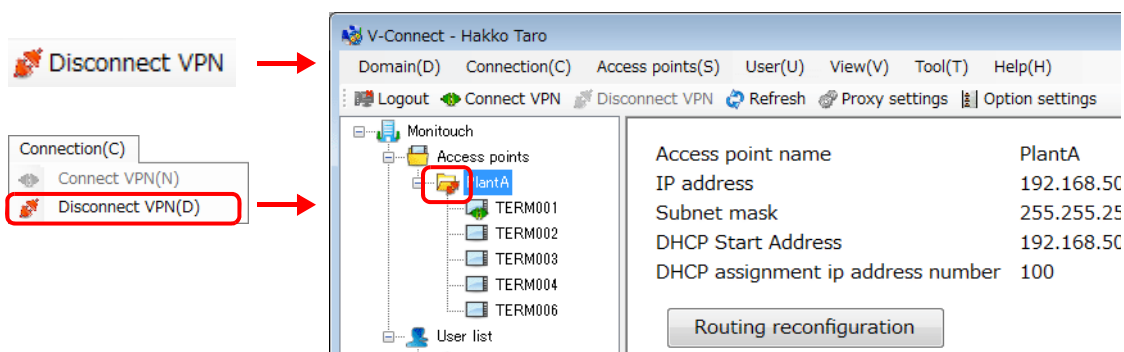
2. Click the [Connect VPN] icon or [Connection] → [Connect VPN]. A VPN connection is established.



Disconnecting a VPN Connection

Procedure

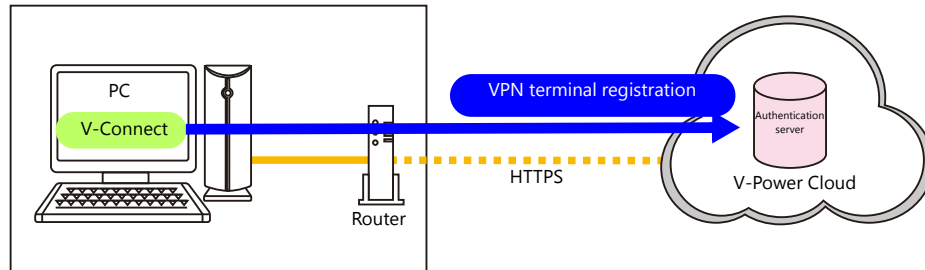
1. Select an access point in the tree window.
2. Click the [Disconnect VPN] icon or [Connection] → [Disconnect VPN]. The VPN connection is disconnected.



1.3.7 Access Points

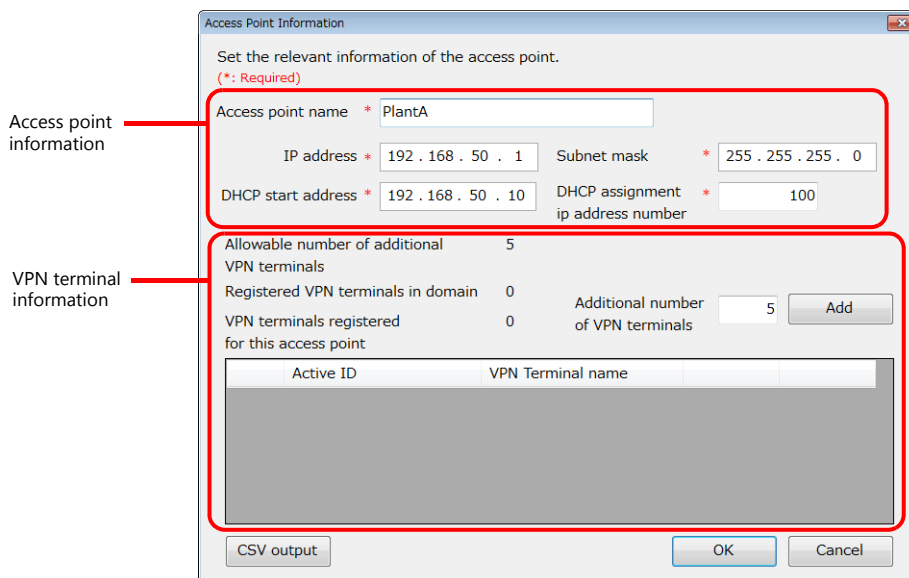
Registering Access Points

Use the “V-Connect” management tool to register access points and VPN terminals to the “V-Power Cloud” authentication server.



Procedure

1. Click [Access points] → [New access point]. The [Access Point Information] window is displayed.
2. Set the access point information.



Item	Description	Remarks
Access point name	Access point name	Maximum of 100 characters
IP address	Virtual IP address of the access point ^{*1}	IPv4 address classes A through C can be specified.
Subnet mask	Subnet mask of the access point	
DHCP start address	Start IP address used when allocating virtual IP addresses ^{*1} of VPN terminals (V9) using DHCP	
DHCP assignment IP address number	Maximum number of VPN terminals for allocating virtual IP addresses ^{*1} using DHCP	0 to 254
Allowable number of additional VPN terminals	Allowable number of additional VPN terminals that can be registered	0 to 999 ^{*2}
Registered VPN terminals in domain	Number of VPN terminals that can be registered to the domain	
VPN terminals registered for this access point	Number of VPN terminals registered to the selected access point	
Additional number of VPN terminals	Register additional VPN terminals	0 to 999 ^{*2}
CSV output	Output VPN terminal information to CSV file	

^{*1} Virtual IP addresses

IP addresses that are only allocated for the purpose of VPN connection. These IP addresses cannot be used for any other purpose.

^{*2} The maximum number differs depending on the license type. Refer to “1.1.3 License”

3. Register VPN terminals (V9).

Enter a value for [Additional number of VPN terminals] and click [Add]. The number of specified VPN terminals are temporarily registered.

4. If VPN terminal information requires modification, click [Edit] to modify and [OK] to accept the changes.

Item	Description	Remarks
Active ID	VPN terminal ID This ID is automatically issued by the authentication server.	Registered VPN terminals can be updated by clicking [Delete] → [Add].
VPN terminal name	Name of the VPN terminal	
DHCP *1 Static IP *2	IP address allocation method for the VPN terminal	[DHCP]: Automatically issued from the server
IP address	IP address of the VPN terminal	[Static IP]: User-defined
Subnet mask	Subnet mask of the VPN terminal	
Local network1	Address of local network 1 of the VPN terminal	Settable with LAN2CH and LAN3CH types
Subnet mask	Subnet mask of local network 1 of the VPN terminal	
Local network2	Address of local network 2 of the VPN terminal	Settable with LAN3CH type
Subnet mask	Subnet mask of local network 2 of the VPN terminal	

*1 The IP address may change because it is automatically allocated by the server.

*2 The set IP address and subnet mask are always allocated.

5. When all VPN terminal settings are configured, click [OK]. The access point and VPN terminal are registered to the authentication server.

6. To delete a VPN terminal, click [Delete] and [OK].



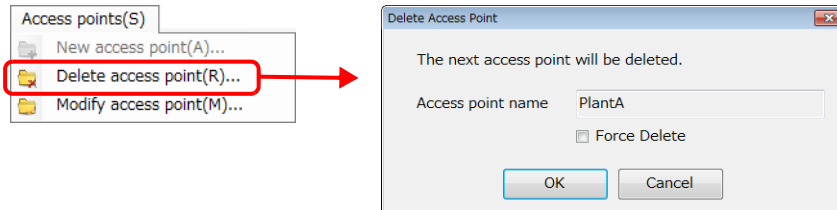
Deleting a VPN terminal causes the active ID to disappear completely. When registering the VPN terminal again, a different active ID is allocated. Take sufficient care when deleting VPN terminals in use.

Deleting Access Points

Delete registered access points.

Procedure

1. Select an access point to delete in the tree window.
2. Click [Access points] → [Delete access point]. A confirmation dialog box is displayed.
If deleting an access point when a VPN connection is established, select the [Force Delete] checkbox.



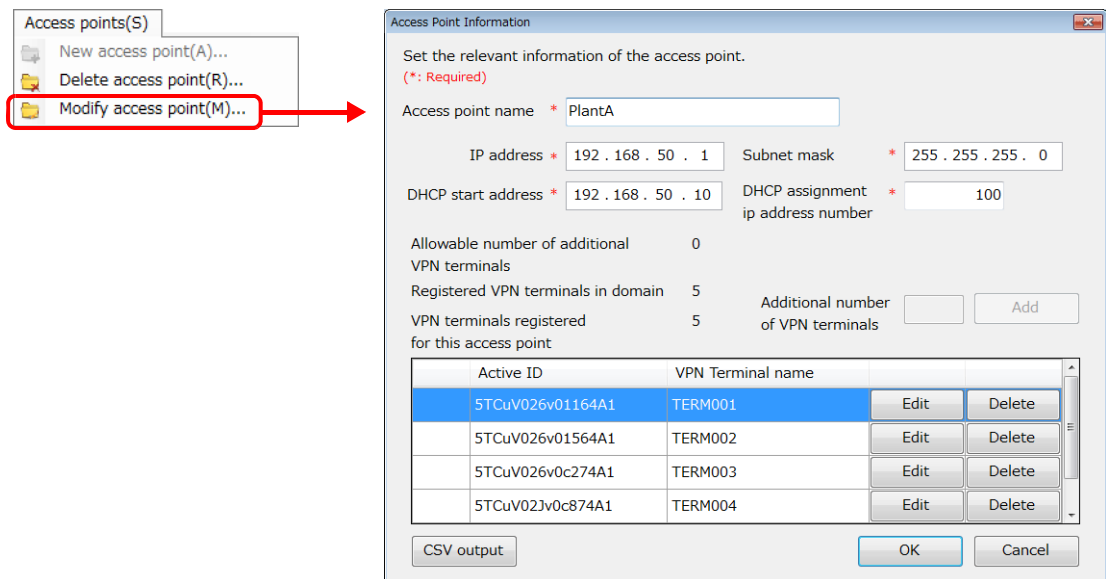
3. Click [OK] to delete the access point.

Modifying Access Points

Modify registered access point information and VPN terminal information and delete VPN terminals.

Procedure

1. Select an access point in the tree window.
2. Click [Access points] → [Modify access point]. The [Access Point Information] window is displayed.

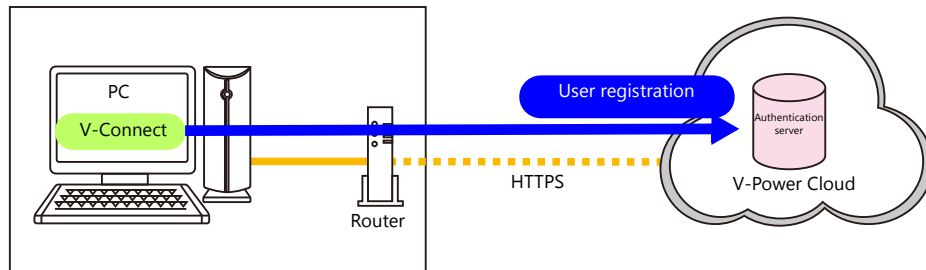


3. Modify the settings. For details on settings, refer to "Registering Access Points".

1.3.8 Users

Registering Users

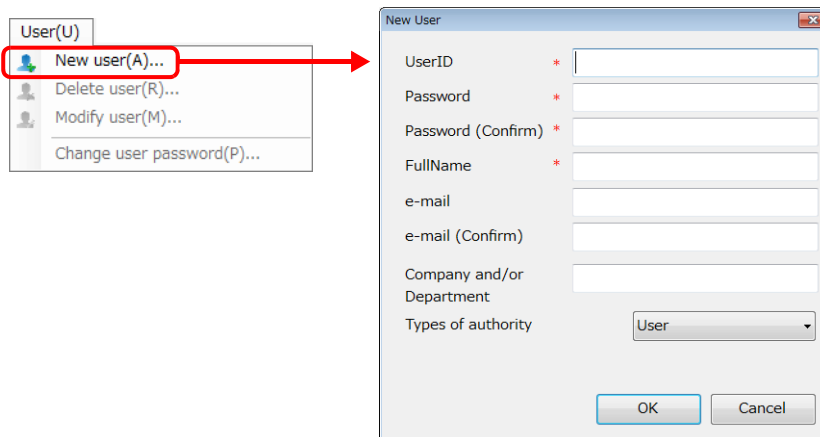
Use the “V-Connect” management tool to register user information to the “V-Power Cloud” authentication server. A maximum of 20 users can be registered to a single domain.



Procedure

1. Click [User] → [New user]. The [New User] window is displayed.
2. Register user information.

An asterisk (*) denotes a mandatory field.



Item	Max. Characters	Remarks
User ID *	8 to 20	One-byte alphanumeric characters (not case-sensitive) Symbols: -, _ , #, %, &, and.
Password *	6 to 20	One-byte alphanumeric characters (case-sensitive) Symbols: -, _ , #, %, &, and.
Password (Confirm) *		
Full Name *	60	Maximum of 60 one-byte or two-byte characters
e-mail	256	
email (Confirm)		
Company and/or Department	100	Maximum of 100 one-byte or two-byte characters
Types of authority	-	Normal user/administrator For more information, refer to “1.3.2 User Types and Privileges”.

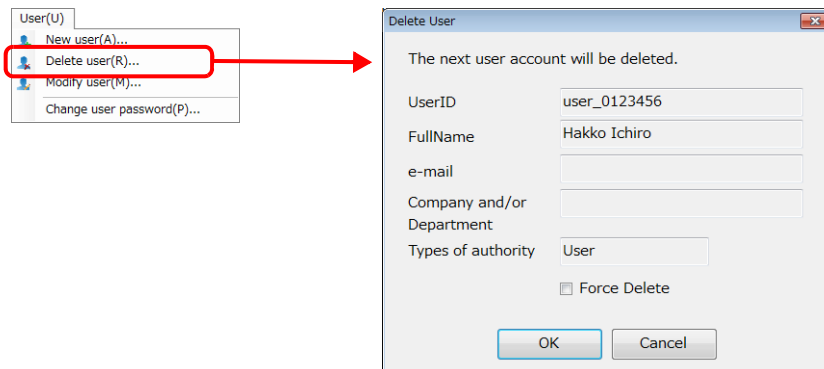
3. Click [OK] to complete user registration.

Deleting Users

Delete registered users.

1. Select a user to delete from the user list in the tree window.
2. Click [User] → [Delete user]. A confirmation window is displayed.

If deleting a user with an established VPN connection, select the [Force Delete] checkbox.

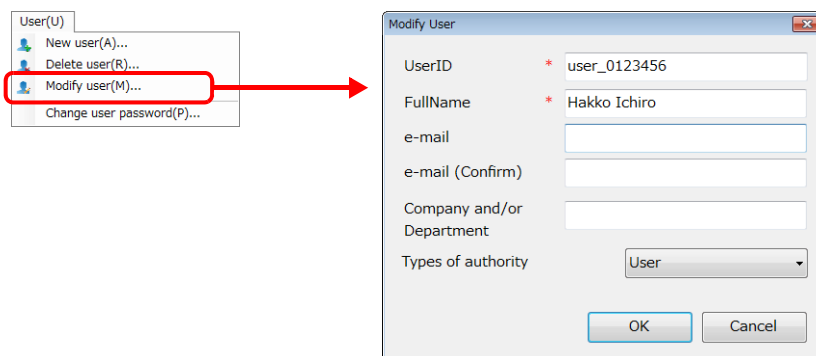


3. Click [OK] to delete the user.

Modifying User Information

Modify registered user information.

1. Select a user to modify from the user list in the tree window.
2. Click [User] → [Modify user]. The [Modify User] window is displayed.

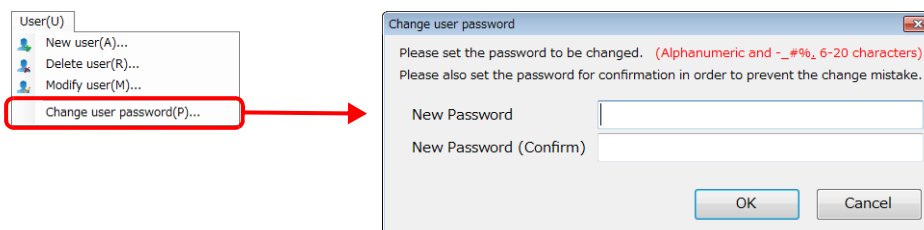


3. Modify the registered information and click [OK] when finished.

Changing User Passwords

Change a registered password.

1. Select the user whose password is to be changed from the user list in the tree window.
2. Click [User] → [Change user password]. The [Change user password] window is displayed.

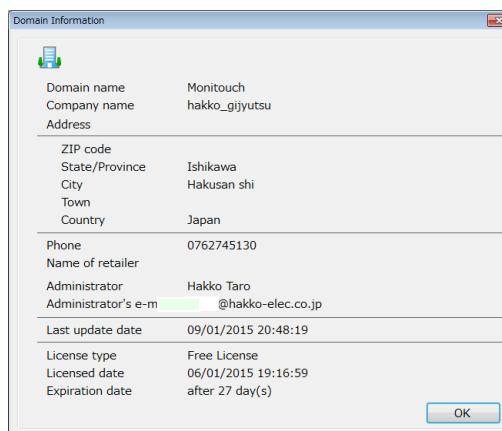


3. Enter a new password and click [OK] when finished.

1.3.9 View

Show Domain

Display the obtained domain information.



Refresh

Obtain information on the current domain from the authentication server and refresh the display.

Log Info

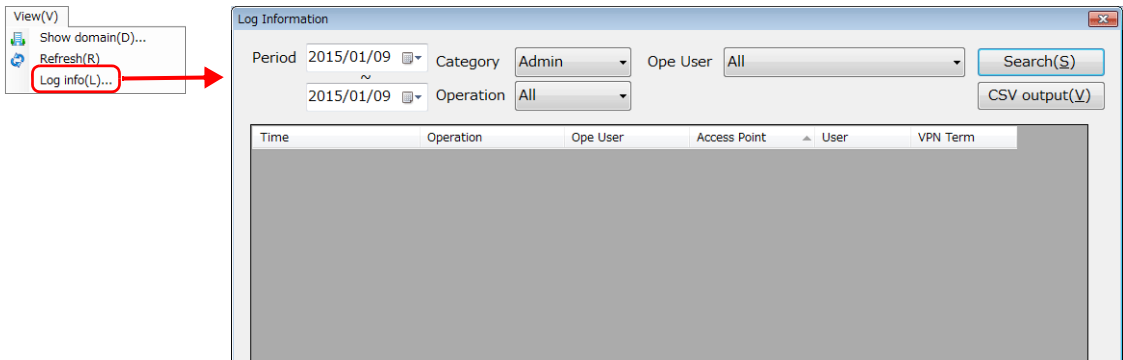
Logs containing management operations performed using V-Connect and VPN connection history for the last three months can be checked.

The following table lists the log information that can be referenced and which users can reference it.

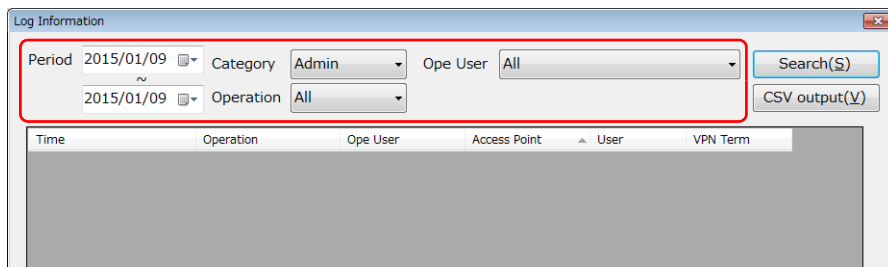
Operation		Log Information	Domain Administrator Administrator	Normal User
Management operations	Register user	Date/time Registered user ID, name User ID and name of user that performed registration		
	Delete user	Date/time Deleted user ID, name User ID and name of user that performed deletion		
	New access point	Date/time Registered access point name User ID and name of user that performed registration		
	Delete access point	Date/time Deleted access point name User ID and name of user that performed deletion	○	×
	VPN terminal registration	Date/time Registered VPN terminal name User ID and name of user that performed registration		
	VPN terminal deletion	Date/time Deleted VPN terminal name User ID and name of user that performed deletion		
VPN connections	User VPN connection	Date/time User ID and name		
	User VPN disconnection	Date/time User ID and name Duration of connection Sizes of sent and received data		
	VPN terminal connection	Date/time VPN terminal name and active ID	○	○
	VPN terminal disconnection	Date/time VPN terminal name and active ID Duration of connection Sizes of sent and received data		

Procedure

1. Click [View] → [Log info]. The [Log Information] window is displayed.



2. Set [Period], [Category], and any other required options.



3. Click [Search]. The search results are displayed.
Example: Management logs

Time	Operation	Ope User	Access Point	User	VPN Term
06/01/2015 19:21:04	Regist access point	Hakko Taro /xxxxhakko	Monitouch		
06/01/2015 19:21:04	Regist VPN terminal	Hakko Taro /xxxxhakko	PlantA		TERM001
06/01/2015 19:21:04	Regist VPN terminal	Hakko Taro /xxxxhakko	PlantA		TERM002
06/01/2015 19:21:04	Regist VPN terminal	Hakko Taro /xxxxhakko	PlantA		TERM003
06/01/2015 19:21:04	Regist VPN terminal	Hakko Taro /xxxxhakko	PlantA		TERM004
06/01/2015 19:21:04	Regist VPN terminal	Hakko Taro /xxxxhakko	PlantA		TERM005
06/01/2015 19:35:16	Delete VPN terminal	Hakko Taro /xxxxhakko	PlantA		TERM005
06/01/2015 19:37:56	Regist VPN terminal	Hakko Taro /xxxxhakko	PlantA		TERM006
09/01/2015 19:41:47	Regist user	Hakko Taro /xxxxhakko		Hakko Ichiro/HakkoIchiro	

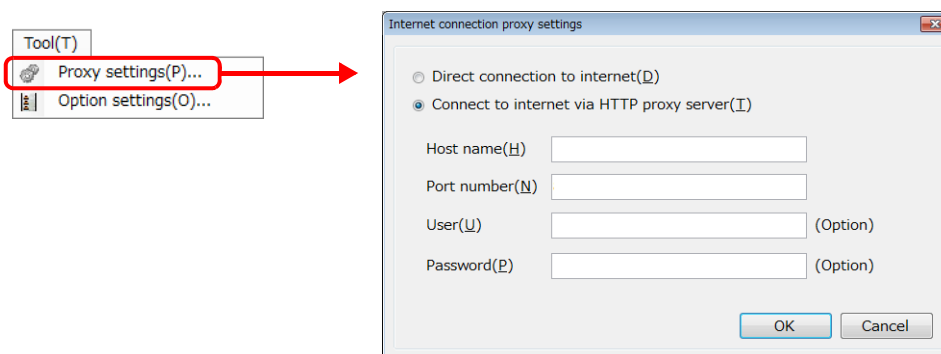
4. Click [CSV output] to save the search results to a CSV file.

	A	B	C	D	E	F	G
1	Time	Operation	Ope User	Access Point	User	VPN Term	
2	06/01/2015 19:21:04	Regist access point	Hakko Taro/xxxxhakko	Monitouch			
3	06/01/2015 19:21:04	Regist VPN terminal	Hakko Taro/xxxxhakko	PlantA		TERM001	
4	06/01/2015 19:21:04	Regist VPN terminal	Hakko Taro/xxxxhakko	PlantA		TERM002	
5	06/01/2015 19:21:04	Regist VPN terminal	Hakko Taro/xxxxhakko	PlantA		TERM003	
6	06/01/2015 19:21:04	Regist VPN terminal	Hakko Taro/xxxxhakko	PlantA		TERM004	
7	06/01/2015 19:21:04	Regist VPN terminal	Hakko Taro/xxxxhakko	PlantA		TERM005	
8	06/01/2015 19:35:16	Delete VPN terminal	Hakko Taro/xxxxhakko	PlantA		TERM005	
9	06/01/2015 19:37:56	Regist VPN terminal	Hakko Taro/xxxxhakko	PlantA		TERM006	
10	09/01/2015 19:41:47	Regist user	Hakko Taro/xxxxhakko		Hakko Ichiro/HakkoIchiro		
11							
12							
13							

1.3.10 Tool

Proxy Settings

Configure these settings when connecting to the Internet via a proxy server.

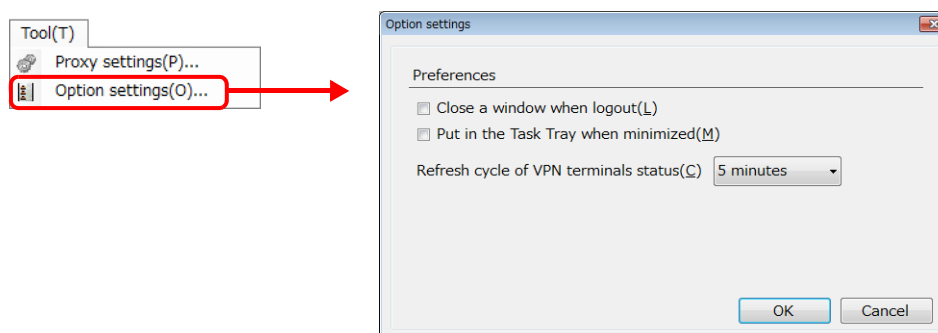


Item	Description	
Direct connection to internet	Connect to the Internet directly without using a proxy server in cases such as when connecting to a mobile router.	
Connect to internet via HTTP proxy server *1	Host name	Set the IP address of the proxy server.
	Port number	Set the port number of the proxy server.
	User	Set the user ID for logging into the proxy server.
	Password	Set the password for logging into the proxy server.

*1 For information on proxy server settings, consult your network administrator.

Option Settings

Configure V-Connect operation.



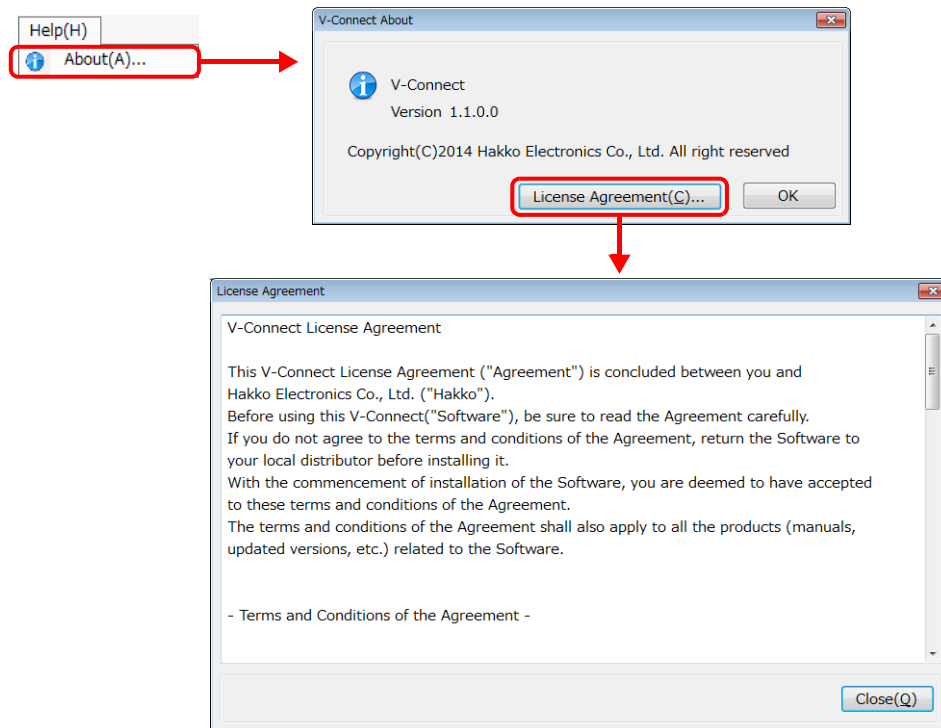
Item	Description
Close a window when logout	Selected: Close V-Connect after logging out. Unselected: Return to the V-Connect login window after logging out.
Put in the Task Tray when minimized	Selected: Display a management tool icon in the task tray when the window is minimized. Unselected: Display the management tool on the task bar when the window is minimized.
Refresh cycle of VPN terminals status	Set the refresh cycle during VPN connection. None (no automatic refresh)*1/1 minute/5 minutes/10 minutes/30 minutes/60 minutes

*1 Refresh the status by clicking [View] → [Refresh].

1.3.11 Help

About

Version information of "V-Connect" and the license agreement can be checked.



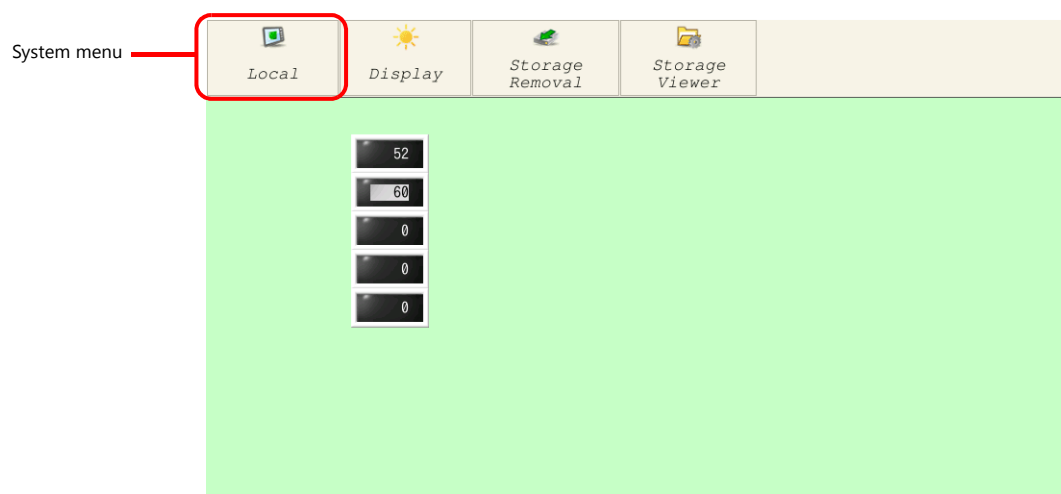
1.4 V9 Series Unit Settings

1.4.1 IP Address Settings

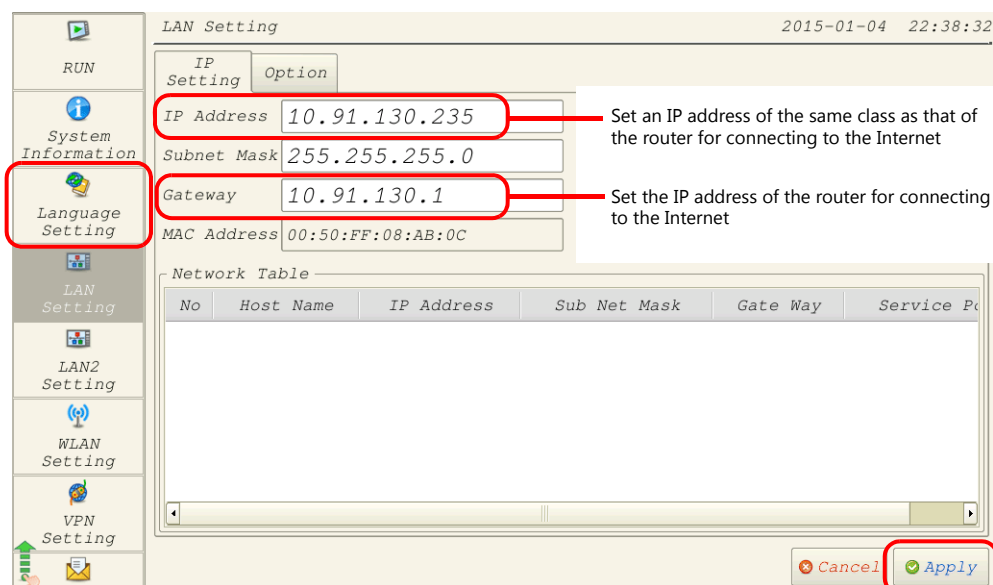
Set the IP address of the V9 series unit.

Procedure

- Enter Local mode on the V9 series unit.
 - * For details on entering Local mode, refer to the V9 Series Troubleshooting/Maintenance Manual.
 - V9 Standard / V9 Lite
Press the [SYSTEM] switch to display the system menu and then press the [Local] switch.
 - V9 Advanced
Press one corner of the screen for at least 2 seconds and release your finger when there is a beep. Then within one second, press a different corner and hold for at least 2 seconds to display the system menu. Press the [Local] switch on the displayed system menu.



- Display the [LAN Setting] screen.
 - * **When using the LAN2CH or wireless LAN type of V9 Advanced / V9 Standard models, LAN2/WLAN settings can also be configured.**
- Set the IP address for connecting to the Internet and accept the setting by pressing [Apply].



When using the LAN2CH or wireless LAN type of V9 Advanced / V9 Standard models, do not set a default gateway for LAN port settings other than the VPN connection port.

1.4.2 Date and Time Settings

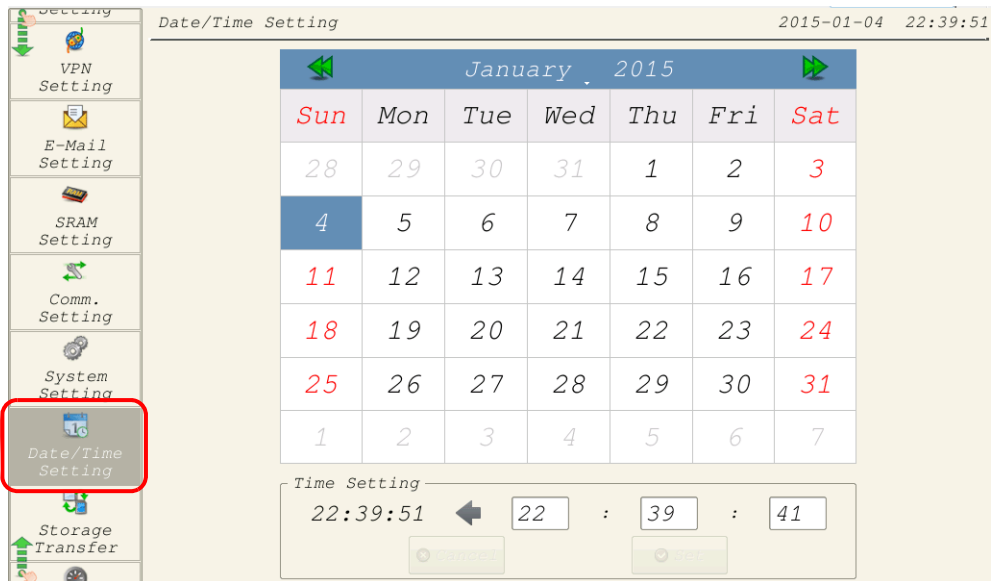
Set the date and time on the V9 series unit.



A VPN connection cannot be established without setting the correct date and time.

Procedure

- Using the PLC clock
Set the date and time of the PLC as the current date and time.
- Using the internal clock of the V9 series unit
Configure the date and time settings in Local mode → [Date/Time Setting].

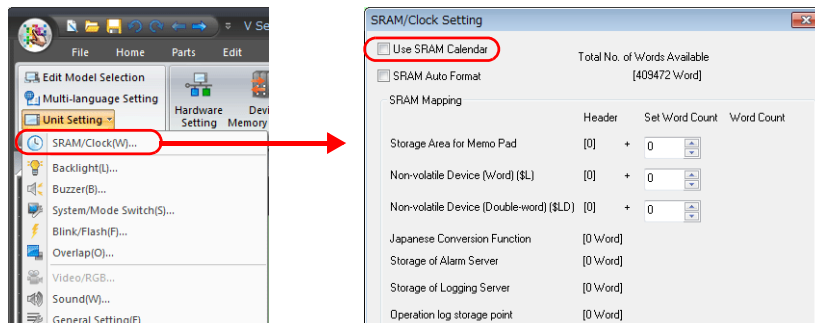


Check the screen program to determine whether the PLC clock or internal clock of the V9 series unit is used.

[System Setting] → [Unit Setting] → [SRAM/Clock] → [Use SRAM Calendar]

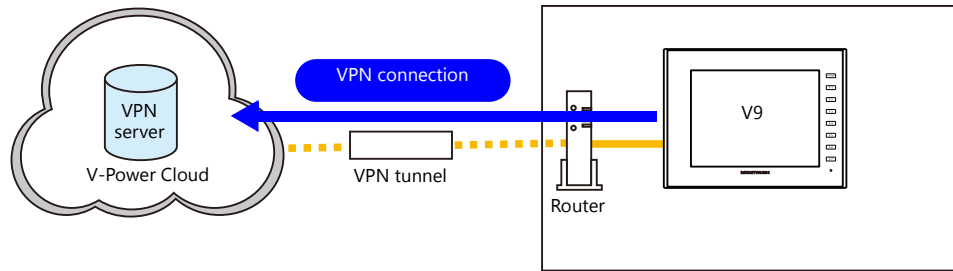
Unselected: PLC clock

Selected: Internal clock of the V9 series unit



1.4.3 VPN Settings

Configure VPN settings and connect the V9 series unit to the VPN.



Procedure

1. Display the [VPN Setting] screen in Local mode.
2. Configure the VPN settings.

The screenshot shows the 'VPN Setting' screen. The status is 'Invalid'. The 'Port for VPN' is set to 'LAN'. The 'Domain name' is 'Monitouch' and the 'Active ID' is '5TCuV026v01164A1'. The 'IP Address for VPN' field is empty. The 'VPN terminal name' field is also empty. The 'Unlink' and 'Connect' buttons are at the bottom right.

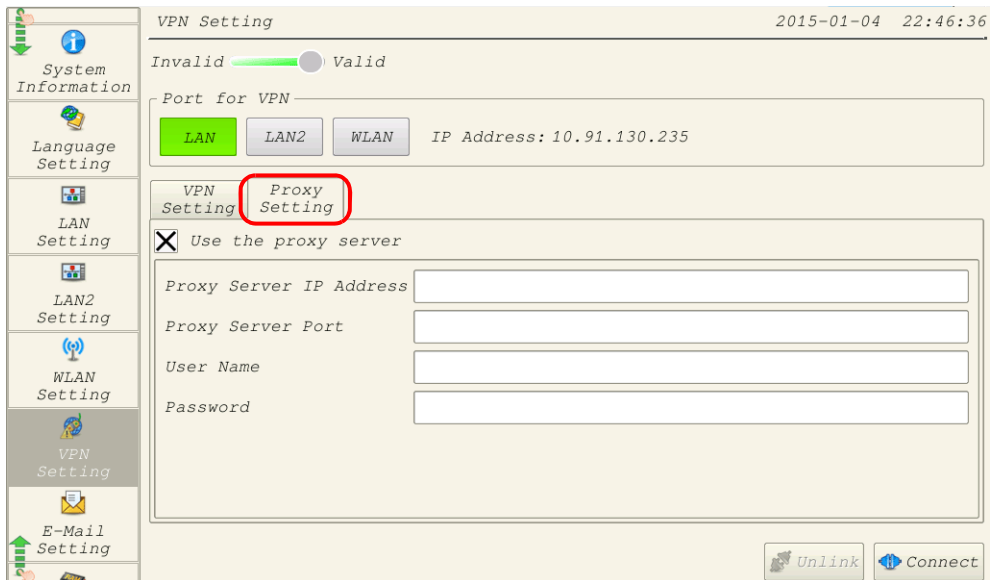
V-Connect

The screenshot shows the V-Connect application window. The 'Monitouch' connection profile is selected. The 'Active ID' is '5TCuV026v01164A1'. The 'VPN terminal name' is 'TERM001'. The 'IP address assignment' is 'DHCP'. The 'Local network' section shows the network configuration.

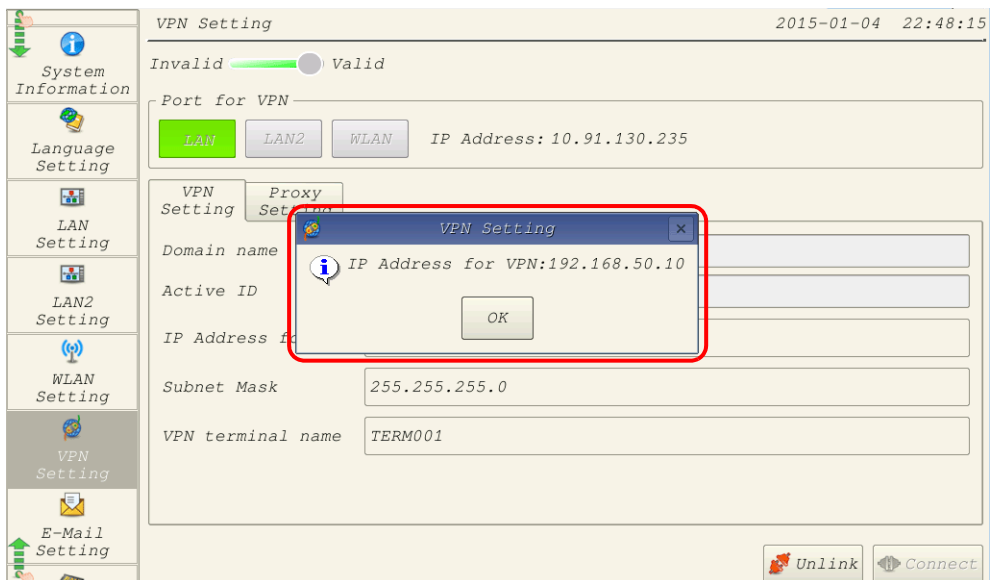
Local network			
Network address1	192.168.90.0	Network address2	192.168.10.0
Subnet mask	255.255.255.0	Subnet mask	255.255.255.0

VPN status	Online
Source IP address	61.121.103.156
Session start time	09/01/2015 19:39:20
Last authentication time	09/01/2015 19:39:20
Sending data size	1,024Bytes
Receiving data size	49,310Bytes

- When accessing the Internet via a proxy server, configure settings on the [Proxy Setting] tab.



- Press [Connect] to access V-Power Cloud. If a dialog box with "IP Address for VPN" is displayed as shown below, the V9 series unit connected successfully.



- Press [Unlink] to disconnect from the VPN.



The state of connection or disconnection is stored even when the V9 series unit is turned OFF. If the unit is turned OFF when connected, the unit will automatically reconnect to the VPN when the unit is turned ON.

1.4.4 VPN Connection/Disconnection

Connection or disconnection of the V9 series unit to the VPN is performed either from the [VPN Setting] screen in Local mode or from the status bar.

VPN Setting Screen

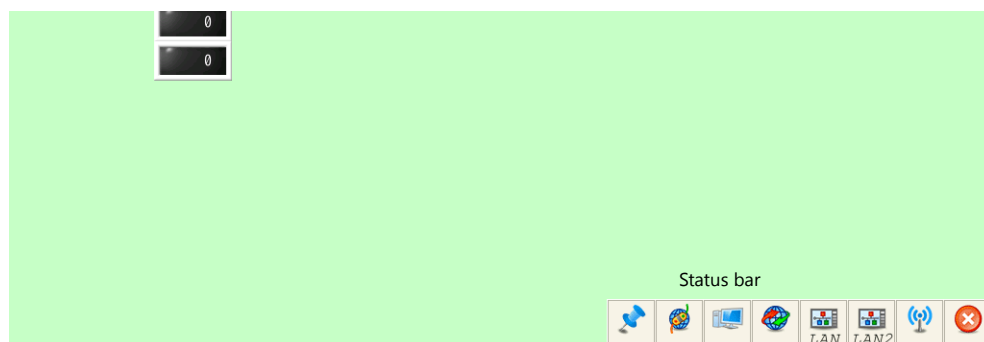
For information on connecting and disconnecting from the [VPN Setting] screen, refer to 1.4.3VPN Settings.

Status Bar

The VPN connection status can be checked and connecting and disconnecting can be performed using the status bar.

Procedure

1. Enter Local mode on the V9 series unit.
 - * For details on entering Local mode, refer to the V9 Series Troubleshooting/Maintenance Manual.
 - V9 Standard / V9 Lite
Press the [SYSTEM] switch to display the status bar.
 - V9 Advanced
Press one corner of the screen for at least 2 seconds and release your finger when there is a beep.
Then within one second, press a different corner and hold for at least 2 seconds to display the status bar at the bottom right of the screen.



2. Press the VPN icon. A status window is displayed.



3. Press [Connect] and [Unlink] to change the connection state. A mark appears on the VPN icon in the disconnected state.



System Device Memory (\$s)

The VPN connection status can be checked using \$s1675.

- 0: VPN not configured
- 1: Connected to VPN
- 1: Disconnected from VPN

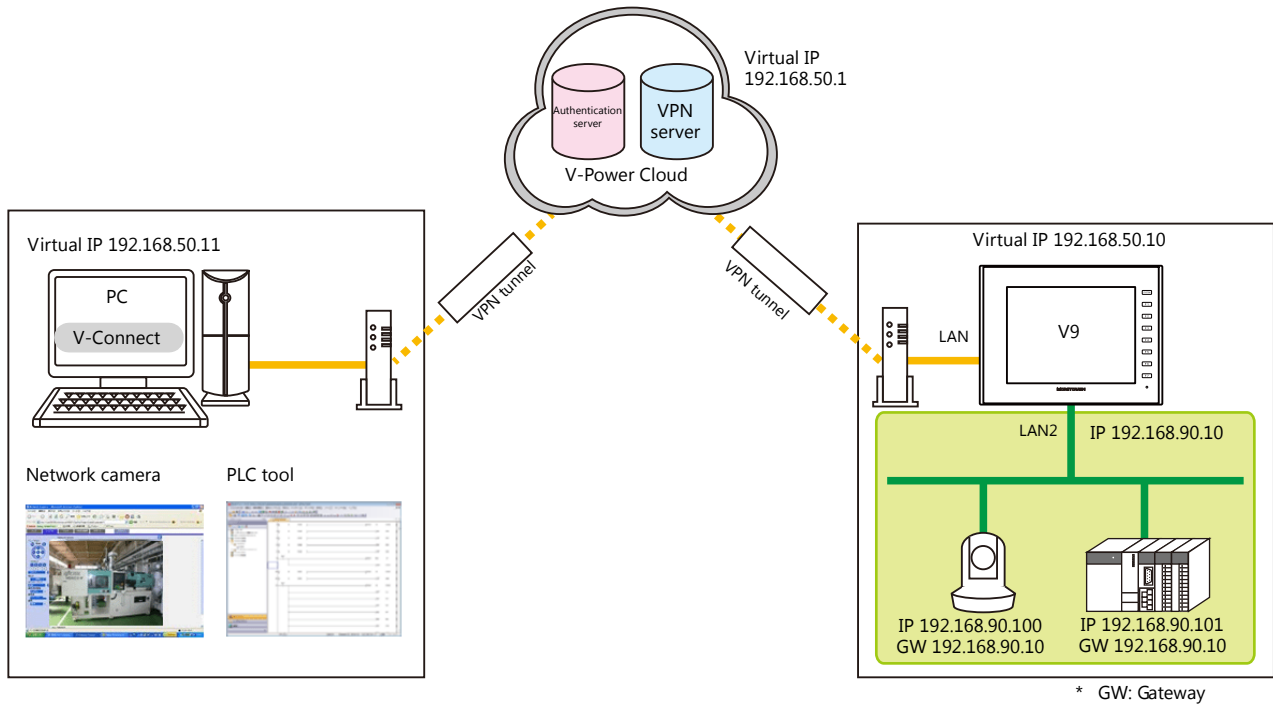
1.5 Routing Function

1.5.1 Overview

V9 series units with multiple LAN ports such as LAN2CH and 3CH types can have multiple IP addresses.

This means that even if one port is exclusively used for VPN connection, the other ports can be used to connect to PLCs or network cameras to form a local network.

Also, because the V9 series unit features a built-in routing function, devices on the local network can also be accessed over a VPN connection.



Remote operations available when using the routing function

- Screen program transfer
- Remote monitoring and operations of network cameras
- Remote monitoring and operations of PLCs

1.5.2 Notes on Connections

V9 Series Unit Settings

IP address settings/default gateways

- Always use a different network group for each IP address of [LAN Setting], [LAN2 Setting], and [WLAN Setting]. If set in the same network group, the system will not operate correctly.
- Only set a default gateway for the port used for VPN connection. Leave the gateways of the local network unconfigured (blank).

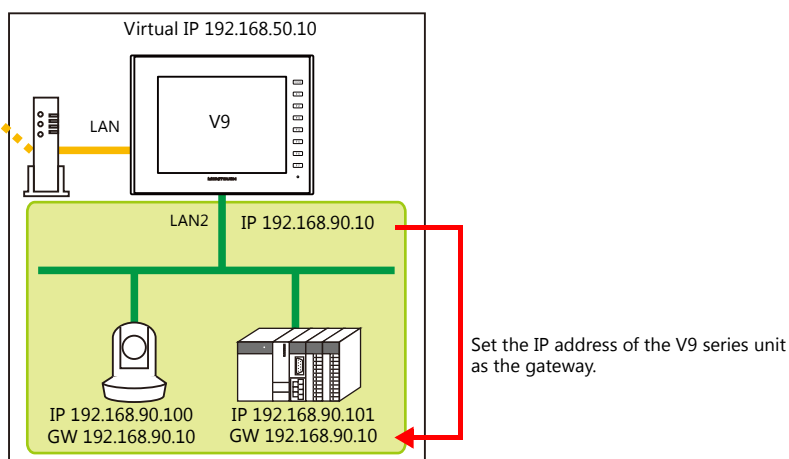
Setting example

		LAN Setting (VPN Connection)	LAN2 Setting	WLAN Setting
Correct →	IP Address	10.90.100.5	192.168.1.50	192.168.10.200
	Default Gateway	10.90.100.1	Not set (blank)	Not set (blank)
Incorrect →	IP Address	192.168.1.100	192.168.1.50	192.168.10.200
	Default Gateway	192.168.1.1	Not set (blank)	192.168.10.1

- The IP addresses of [LAN Setting] and [LAN2 Setting] belong to the same network group (192.168.1.x).
- The gateway of [WLAN Setting] is set.

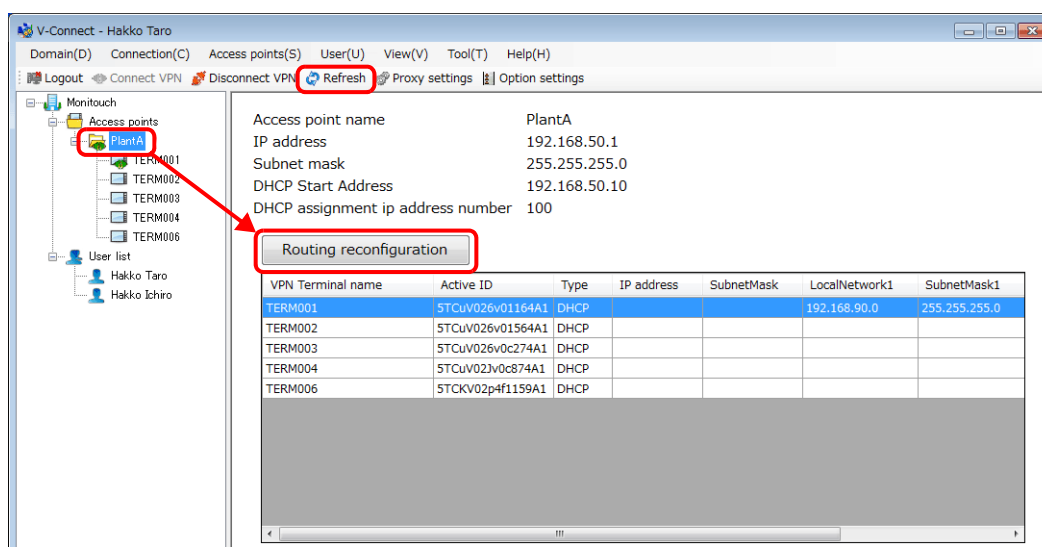
PLC and Network Camera Settings

- Set the local network IP address of the V9 series unit as the gateway of PLCs and network cameras.



V-Connect Settings

- When V-Connect is connected to the VPN, the routing setting information of V-Connect does not update to the latest state immediately after changing VPN terminal settings. Execute [Refresh] followed by [Routing reconfiguration] to obtain the latest information.



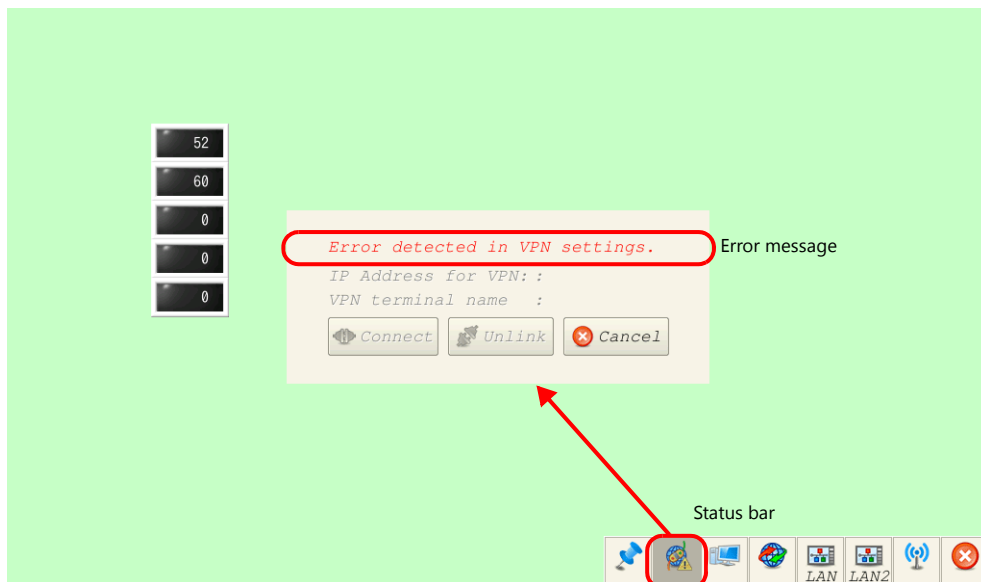
1.6 Errors

V9 Series Unit Errors

- Errors related to V9 series unit settings

Error No.	Error Message	Cause
1	Cannot set the IP address assigned for VPN.	There is a mistake on the [VPN Setting] screen. →Revise the VPN settings. Cannot connect to the Internet. →Check the router settings, gateway, and cables and connections.
2	Connection is not established with the port to be used for VPN.	The port used for VPN connection is not connected. →Check the cables and connections.
3	Error detected in VPN settings. *1	The port used for VPN connection is not selected. →Check the LAN/LAN2/WLAN settings. [Domain name]/[Active ID] are not set on the [VPN Setting] screen. →Set [Domain name]/[Active ID]. There is no gateway setting. →Check the gateway.
4	There is no gateway setting.	Check the gateway.

*1 Displayed when the VPN settings icon on the status bar is selected.



- Errors received from the authentication server during VPN connection
Reconfigure settings according to the details of the message.

V-Connect Errors

There are errors that occur due to V-Connect settings and errors received from the authentication server during VPN connection.

Reconfigure settings according to the details of the message.

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