

Operation Manual

HITACHI Air Conditioner Managing System Remote Access

Model: PSC-A128EX1

Thank you for choosing our Air Conditioner Managing System.

- Please keep this manual in a safe place.
- If you have any questions or concerns, please contact distributor or your dealer.

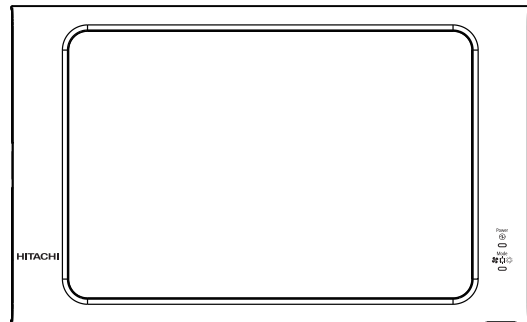


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1. Safety Summary

Important Notice

- HITACHI pursues a policy of continuing improvement in design and performance in its products. As such, HITACHI reserves the right to make changes at any time without prior notice.
- HITACHI cannot anticipate every possible circumstance that might involve a potential hazard.
- Central Station EX is designed for standard air conditioning applications only. Do not use this product for anything other than the purposes for which it was intended for.
- The installer and system specialist must safeguard against leakage in accordance with local pipefitter and electrical codes. The International Organization for Standardization: (ISO 5149) or European Standard (EN 378) may be applicable, if local regulations are not. No part of this manual may be reproduced in any way without the expressed written consent of HITACHI.
- If you have questions, please contact your distributor or dealer.
- This manual provides descriptions, and basic and advanced information to maintain and service Central Station EX which applies as well for other models.
- This manual should be considered a permanent part of the air conditioning equipment and should remain with the air conditioning equipment.

Product Inspection upon Arrival

1. Upon receiving this product, inspect it for any damages incurred in transit. Claims for damage, either apparent or concealed, should be filed immediately with the shipping company.
2. Check the model number, electrical characteristics (power supply, voltage, and frequency rating), and any accessories to determine if they agree with the purchase order.
3. The standard utilization for Central Station EX is explained in these instructions. Do not use of this equipment for purposes other than what it designed for.
4. Please contact your local agent or contractor as any issues involving installation, performance, or maintenance arise. Liability does not cover defects originating from unauthorized modifications performed by a customer without the written consent of HITACHI. Performing any mechanical alterations on this product without the consent of the manufacturer will render your warranty null and void.

Signal Words

 WARNING	Indicates a hazardous situation that, if not avoided, could result in death or serious injury.
 CAUTION	Indicates a hazardous situation that, if not avoided, could result in minor or moderate injury.
NOTICE	Indicates information considered important, but not hazard-related (for example, messages relating to property damage).

General Precautions

 WARNING	To reduce the risk of serious injury or death, read these instructions thoroughly and follow all warnings or cautions included in all manuals that accompanied the product and are attached to the unit. <i>Refer back to these safety instructions as needed.</i>
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- This system, including Remote Access, should be installed by personnel certified by HITACHI. Personnel must be qualified according to local, state, and national building and safety codes and regulations. Incorrect installation could cause leaks, electric shock, fire or explosion. In areas where Seismic "Performance requirements are specified, the appropriate measures should be taken during installation to guard against possible damage or injury that might occur in an earthquake. If the product is not installed correctly, injuries may occur due to a falling product.
- Use appropriate Personal Protective Equipment (PPE), such as gloves and protective goggles and, where appropriate, have a gas mask nearby. Also use electrical protection equipment and tools suited for electrical operation purposes. Keep a wet cloth and a fire extinguisher nearby during brazing. Use care in handling, rigging, and setting of bulky equipment.
- When transporting, be careful when picking up, moving and mounting these units. Although the unit may be packed using plastic straps, do not use them for transporting the unit from one location to another. Do not stand on or put any material on the unit. Get a partner to help, and bend with your knees when lifting to reduce strain on your back. Sharp edges or thin aluminum fins on the air conditioner can cut fingers, so wear protective gloves.
- Do not touch or adjust any safety devices inside the indoor or outdoor units. All safety features, disengagement, and interlocks must be in place and functioning correctly before the equipment is put into operation. If these devices are improperly adjusted or tampered with in any way, a serious accident can occur. Never bypass or jump-out any safety device or switch.
- HITACHI will not assume any liability for injuries or damage caused by not following steps outlined or described in this manual. Unauthorized modifications to HITACHI products are prohibited as they...
 - May create hazards which could result in death, serious injury or equipment damage;
 - Will void product warranties;
 - May invalidate product regulatory certifications;
 - May violate OSHA standards;

NOTICE	Take the following precautions to reduce the risk of property damage.
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- Be careful that moisture, dust, or variant refrigerant compounds do not enter the refrigerant cycle during installation work. Foreign matter could damage internal components or cause blockages.
- If air filters are required on this unit, do not operate the unit without the air filter set in place. If the air filter is not installed, dust may accumulate and breakdown may result.
- Do not install this unit in any place where silicon gases can coalesce.

- When installing Central Station EX in a hospital or other facility where electromagnetic waves are generated from nearby medical and/or electronic devices, be prepared for noise and electronic interference Electromagnetic Interference (EMI). Do not install where the waves can directly radiate into the electrical box, controller cable, or controller. Inverters, appliances, high-frequency medical equipment, and radio communications equipment may cause the product to malfunction. The operation of the product may also adversely affect these same devices. Install the product at least 3m away from such devices.
- When a wireless controller is used, locate it at a distance of at least 1 meter between the indoor unit and electric lighting. If not, the receiver part of the unit may have difficulty receiving operation commands.
- Do not install the unit in any location where animals and plants can come into direct contact with the outlet air stream. Exposure could adversely affect the animals and plants.
- Do not install the unit in any place where oil can seep onto the units, such as table or seating areas in restaurants, and so forth. For these locations or social venues, use specialized units with oil-resistant features built into them. In addition, use a specialized ceiling fan designed for restaurant use. These specialized oil-resistant units can be ordered for such applications. However, in places where large quantities of oil can splash onto the unit, such as a factory, even the specialized units cannot be used. These products should not be installed in such locations.

Installation Precautions



WARNING

Take the following precautions to reduce the risk of electric shock, fire or explosion resulting in serious injury or death:

- When installing Central Station EX into...
 - A wall: Make sure the wall is strong enough to hold the product's weight. It may be necessary to construct a strong wood or metal frame to provide added support.
 - A room: Properly insulate any refrigerant tubing run inside a room to prevent "sweating" that can cause dripping and water damage to wall and floors.
- Do not install Central Station EX in the following places. Doing so can result in an explosion, fire, damage, corrosion, or product failure.
 - Explosive or flammable atmosphere
 - Where a fire, oil, steam or powder can directly enter the unit, such as nearby or above a kitchen stove.
 - Where oil (including machinery oil) may be present.
 - Where corrosive gases such as chlorine, bromine, or sulfide can accumulate, such as near a hot tub or hot spring.
 - Where dense, salt-laden airflow is heavy, such as in coastal regions.
 - Where the air quality is of high acidity.
 - Where harmful gases can be generated from decomposition.
- Perform a test run to ensure normal operation. Safety guards, shields, barriers, covers, and protective devices must be in place while the compressor/unit is operating. During the test run, keep fingers and clothing away from any moving parts.
- Clean up the site when finished, remembering to check that no metal scraps or bits of wiring have been left behind inside the unit being installed.

After installation work for the system has been completed, explain the "Safety Precautions", the proper use and maintenance of Central Station EX to the customer according to the information in all manuals that came with the system. All manuals and warranty information must be given to the user or left near the Indoor Unit.

Electrical Precautions

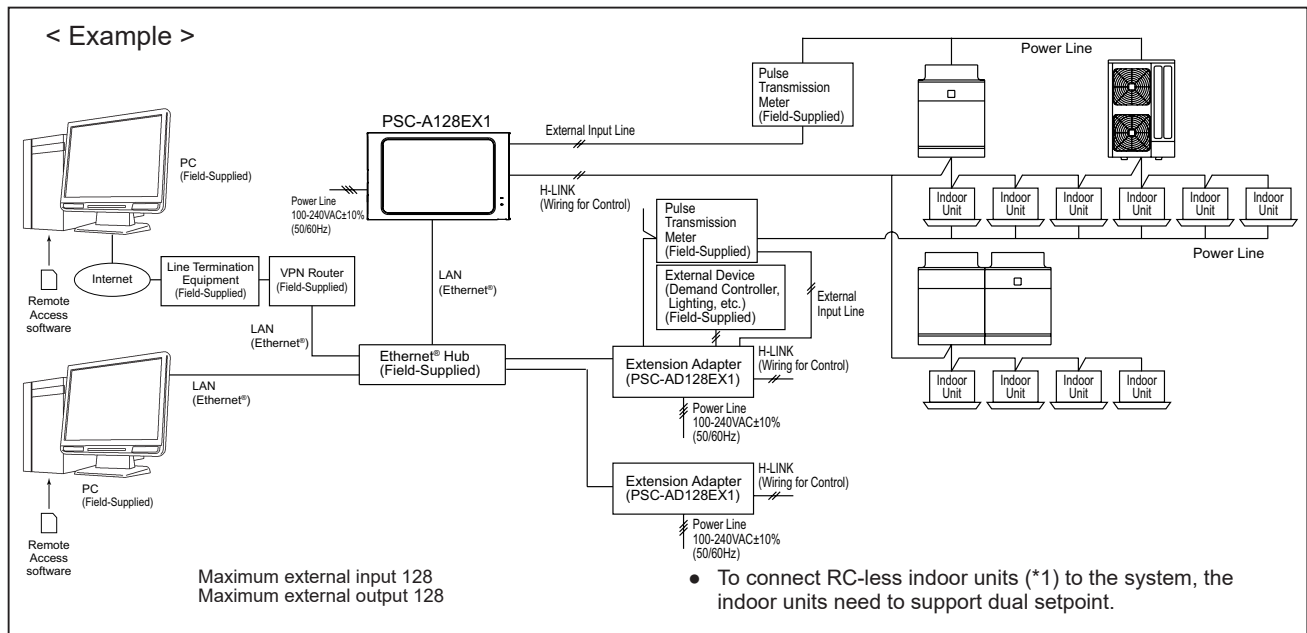


Take the following precautions to reduce the risk of electric shock, fire or explosion resulting in serious injury or death.

- Highly dangerous electrical voltages are used in this system. Carefully refer to the wiring diagram and these instructions when wiring. Improper connections and inadequate grounding can cause serious injury or death.
- Before servicing, open and tag all disconnect switches. Never assume that electrical power is disconnected. Check with meter and equipment.
- Only use electrical protection equipment and tools suited for this installation.
- Use specified cables between Central Station EX and the power supply/air conditioner/external equipment.
- Shielded communication cable is not always required but strongly recommended to prevent communication issues for applications such as: Heavy and Light Industrial Buildings, Telecom Centers, Data Centers, Airports, Radio Stations, Hospitals/Healthcare buildings, and Offices.
- Use a dedicated power supply for the air conditioner at the unit's rated voltage.
- Be sure to install circuit breakers (ground fault interrupter, isolating switch, molded case circuit breaker and so on), with the specified capacity. Ensure that the wiring terminals are tightened securely to recommended torque specifications.
- Clamp electrical wires securely with a cable clamp after all wiring is connected to the terminal block. In addition, run wires securely through the wiring access channel.
- When installing the power lines, do not apply tension to the cables. Secure the suspended cables at regular intervals, but not too tightly.
- Turn OFF and disconnect Central Station EX from the power source when wiring. Do not open the back cover without turning OFF the main power supply.
- Do not clean with, or pour water into, Central Station EX as it could cause electric shock and/or damage the product. Do not use strong detergent such as a solvent. Clean with a soft cloth.
- Check that the ground cable is securely connected. Do not connect ground wiring to gas piping, water piping, lightning conductor, or telephone ground cables.
- If there are frequent occurrences with blown fuses or flipped circuit breakers, shut down the system immediately and contact your service contractor.

2. System Configuration

Connect Central Station EX to H-LINK (communication line) to control and monitor air conditioners. Use this software to control and monitor air conditioners remotely on personal computers (PCs) through Central Station EX.



(*1) RC-less indoor unit indicates the indoor unit without remote controller. This does not include instances where multiple indoor units are connected or set to be controlled and monitored by a single remote controller.

NOTICE:

- Adequate monitoring and control may not be assumed upon occurrence of device failure. It is strongly recommended to prepare alternate plan (such as to use Remote Control Switch to control/monitor air conditioners) for such cases.
- Conduct test run on all indoor units to ensure system is operating correctly.
- Upon recovery, make change or control again as necessary if air conditioning system is not working as expected.
- Central Station EX, Central Station EX Adapter and their peripherals are assumed to be always ON. Energy calculation, usage history and other history records for period within which any of the device was turned OFF may not be available.
- Controlling and monitoring on the system are all based on the clock on Central Station EX. Correct operation may not be expected due to unnecessary clock setting change on Central Station EX.
- Use keyboard exclusively for inputting character strings.
- 60, 61, 64 and 65 alarm indicates communication failure between air conditioners and this system. Hence each value shown on screen may not be of actual value.
- The screen-shot image in this manual may differ from the actual controller image.
- While you are reading pulse via external input, pulse count is not accumulated when power is cut or checking connection. This may affect to usage accumulation and calculation. This important item needs to be well discussed with customer prior to system launch.

3. About This Manual

This operation manual describes the setup procedure for Remote Access software.
Refer to the operation manual for Central Station EX for how to operate the software.

4. Preparation

4.1 Test Run

- Test runs of Central Station EX and Energy Calculation Software (if in use) need to be completed before installing Remote Access software. Complete installation of Central Station EX and Energy Calculation Software according to the installation and maintenance manuals for Central Station EX and Energy Calculation Software.
- PC is necessary to install Remote Access software. Prepare PC which meets the specification shown in the following section “4.2 PC Specification (Prepared on Site)”.

4.2 PC Specification (Prepared on Site)

Item	Specification	
OS	Windows7® (32bit/64bit) Professional	Windows10® (32bit/64bit) Pro
CPU	Intel® Core™ i3 2.0GHz or greater	
Memory	4GByte or more	
Resolution	1280 × 800 or more	
Hard Disk Space	16GByte for 32bit and 20GByte for 64bit as Windows® minimum system requirements The following additional hard disk space is needed for VRF Remote Management Software. - 1GByte or more for 1 connection (up to 16 connections) - 0.25GByte or more for 1 additional refrigerant cycle for energy calculation	
Interface	IEEE802.3 (1000BASE-T) SD memory card slot (used when installing this software or saving data) USB memory slot (used when saving data)	
Application	Spreadsheet software such as Microsoft® Excel® is needed to open or edit the output csv files.	

- The official name of Windows® is Microsoft Windows Operating System.
- Microsoft®, Windows®, and Microsoft® Excel® are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries.
- Intel® Core™ i3 is a registered trademark or trademark of Intel Corporation or its subsidiaries in the United States and other countries.
- Ethernet® is a registered trademark of Fuji Xerox Co., Ltd.
- The lifespan of PCs for the remote management software is different from that of air conditioners. Since the PC needs to be updated regularly, please make an arrangement with the customer about the computer update considering the maintenance period of the computer manufacturer.
- Use a 2- button mouse.
- PC for Remote Access software should meet the above specifications. Operation is not guaranteed for all PCs that meet the specifications.

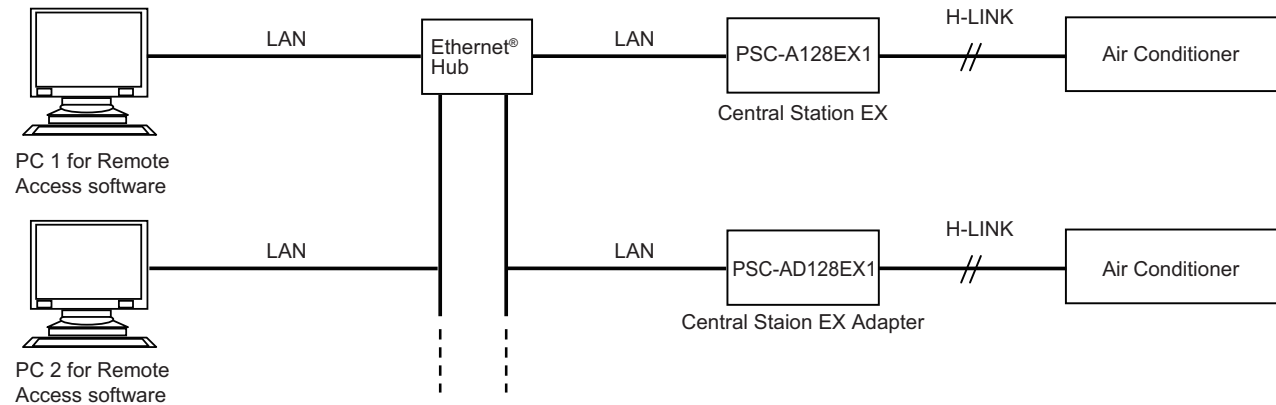
4.3 Network Environment

Central Station EX is designed to be used in the LAN environment.

4.3.1 Connecting the remote PC with the dedicated LAN

As the configuration example shown below, connect Central Station EX (and Central Station EX Adapter) and PCs for Remote Access software through Ethernet® Hub.

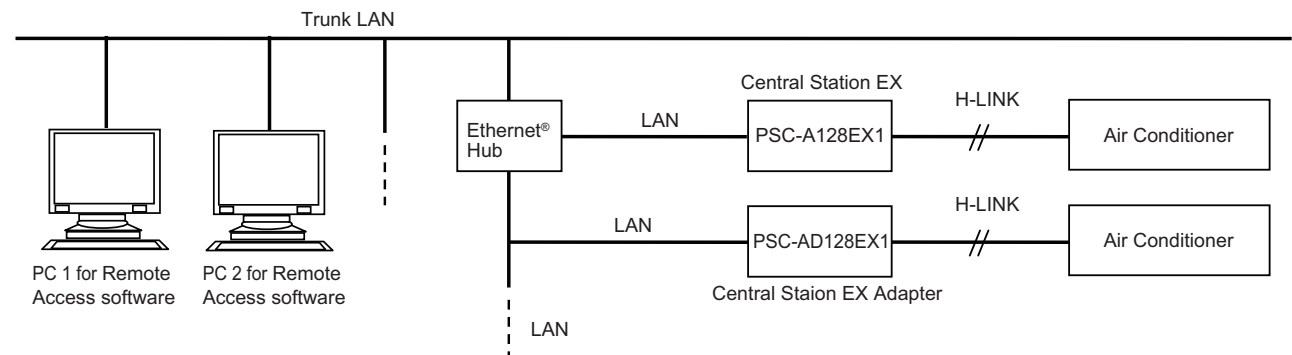
Configuration example of the dedicated LAN



4.3.2 Connecting the remote PC with the existing LAN

As the configuration example shown below, connect Central Station EX (and Central Station EX Adapter) and PCs for the Remote Access software to the existing LAN environment.

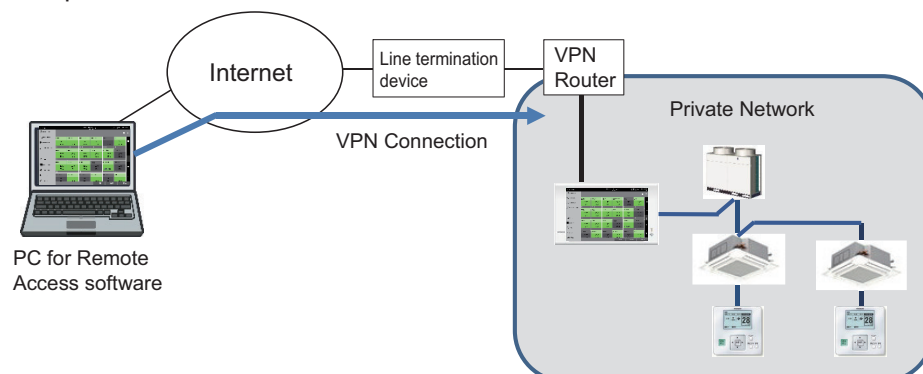
Configuration example of the existing LAN



4.3.3 Using the remote PC through internet

As the configuration example shown below, connect Central Station EX (and Central Station EX Adapter) and PCs for Remote Access software with a VPN router. Build a private network using a VPN router to ensure security when monitoring and controlling air conditioners remotely through internet.

Configuration example of the internet connection



- VPN Setting

- (1) for VPN router

Assign a fixed global IP address or fixed URL (when using DDNS) to the VPN router, and connect the router from the internet (WAN) side to the LAN side. Set IP address (for example, 192.168.0.1) for the private network on the LAN side. Refer to the manual for VPN router for how to set IP address.

- (2) for Central Station EX

Go to [Detail setting]-[Register network]-[H-LINK No.00] to set IP address, subnet mask, and default gateway.

Example

IP address: 192.168.0.50

Subnet mask: 255.255.255.0

Default gateway: 192.168.0.1 (for the LAN side of the VPN router)

- (3) for Remote PC (for Remote Access software)

Go to [Control Panel]-[Network & Internet] to add VPN and set a fixed global IP address or fixed URL of the VPN router installed on site as destination. A dedicated VPN software might be needed depending on the VPN router. Refer to the manual for the VPN router for settings.

- Network Security

- (1) Take an adequate security measure for the network on your own responsibility so that unauthorized users cannot access the PC.

- (2) HITACHI does not take any responsibility for damage or loss caused by network security problem such as unauthorized access.

Examples of security

- Use this software on a secure network with a properly configured firewall.
- Use this software on a physically independent network or on a virtual network using VLAN.
- Make sure that detection and removal of computer viruses and malicious programs are regularly performed on the PCs with this software installed.

NOTES:

- Make sure that IP addresses of Central Station EX, Central Station EX Adapter, and PC for Remote Access software do not conflict with each other.
- When installing this system in the existing LAN wiring, ask your network administrator who manages the LAN how to set the network addresses (IP address, subnet mask, and default gateway).
- When using this system through internet, ask your network administrator who manages the LAN or the internet service provider you contract with how to configure VPN routers and set network addresses (IP address, subnet mask, and default gateway).
- When using this system through internet, make sure to use a security device such as a VPN router to prevent unauthorized access.
- VPN router needs to be prepared locally. Refer to the manual for the VPN router for the usage.
- UP to 5 PCs with the Remote Access software installed can be connected in 1 system.
- UP to 16 central controllers can be set as connection destinations on 1 PC with Remote Access software installed. 1 PC can access only 1 central controller at a time.

How to set network address

- Central Station EX and Built-in adapter
Refer to "9.3 Register Network" in the Installation Manual for Central Station EX.
- Central Station EX Adapter
Refer to "6. Switch Setting" in the Installation Manual for Central Station EX Adapter.
- PC for Remote Access software
Refer to "4.3.4 Changing IP address of PC for Remote Access software" (pages 10-15) in this manual.

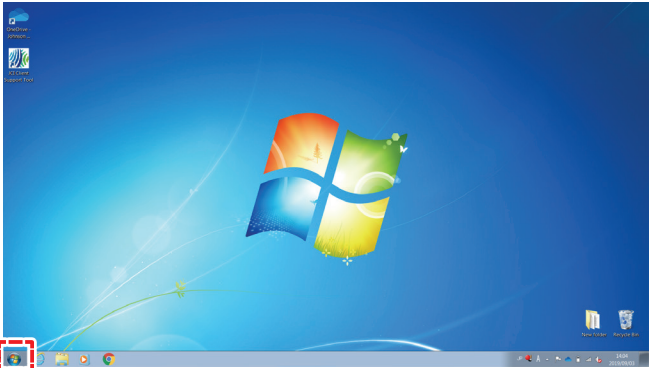
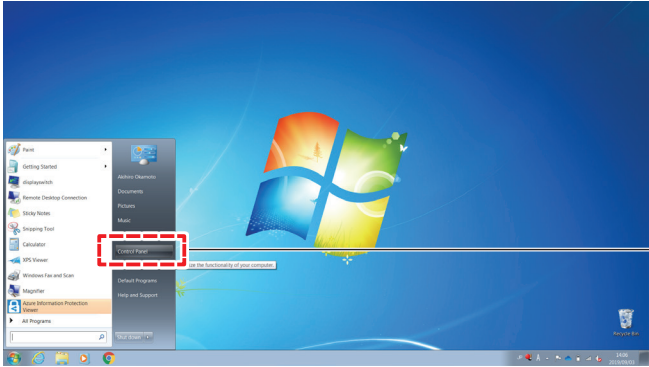
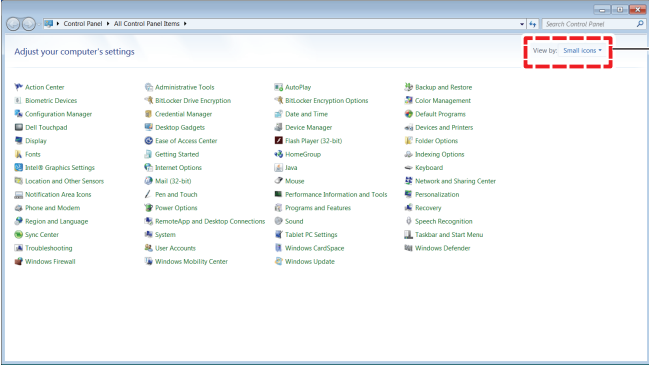
4.3.4 Changing IP address of PC for Remote Access software

Change the IP address of the PC for Remote Access software as necessary.

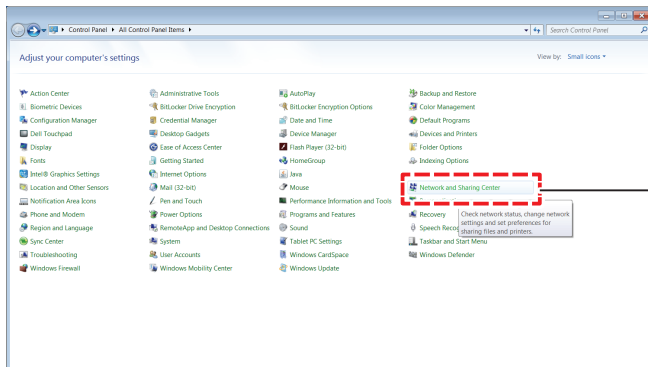
The initial IP address of Central Station EX is “192.168.0.50”. Make sure the IP addresses do not conflict with each other in the same network.

The setting steps differ depending on the OS used. Follow the steps below accordingly.

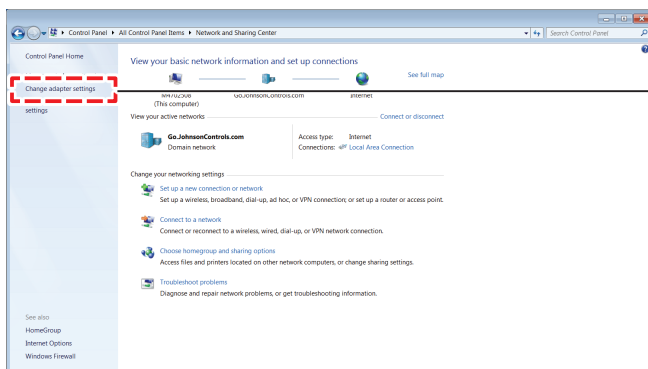
(1) Changing IP Address in Windows7®

 1  2  3 Continue to next page.	1. Click Start. 2. Click Control Panel. 3. Select Small Icons from View by.
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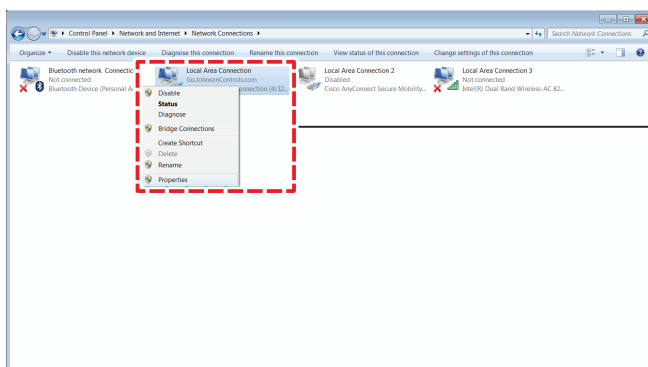
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4. Click Network and Sharing Center.



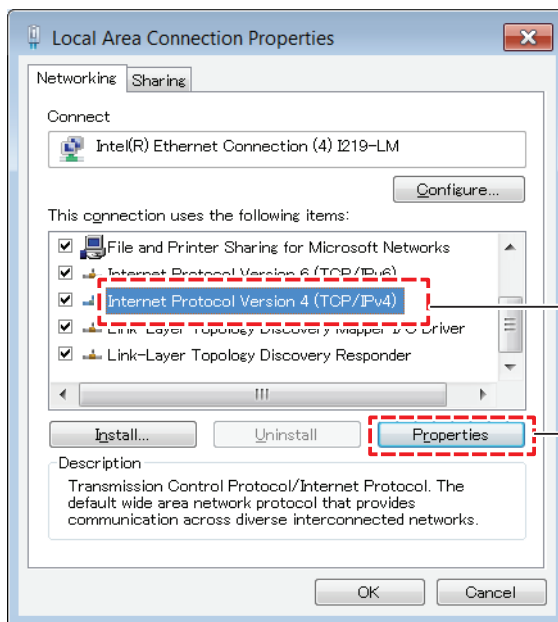
5. Click Change Adapter Settings.



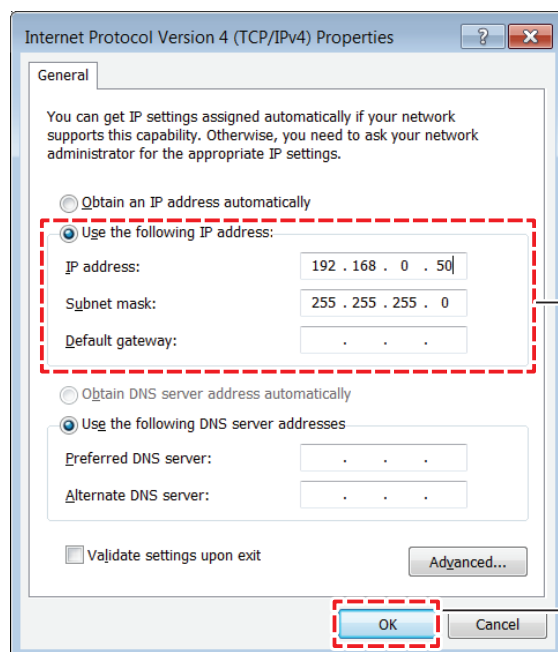
6. Right-click Ethernet, and then select Properties.

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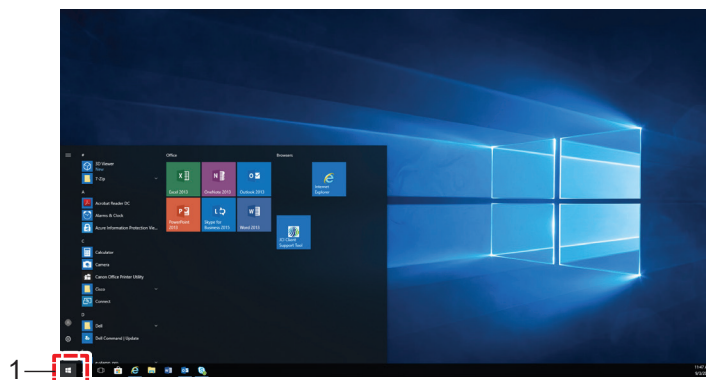


7. Select Internet Protocol Version 4 (TCP/IPv4), and then click Properties.

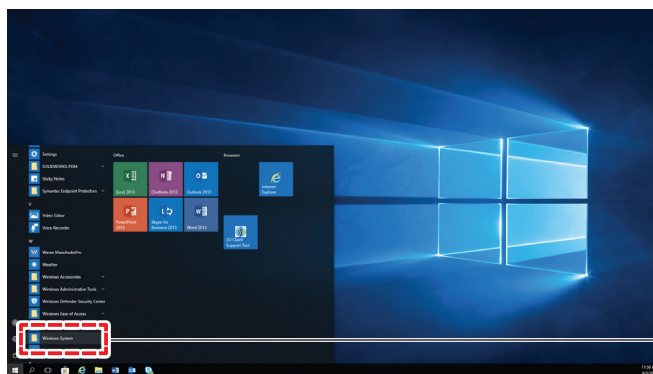


8. Enter IP address, Subnet mask, and Default gateway, and then click OK.

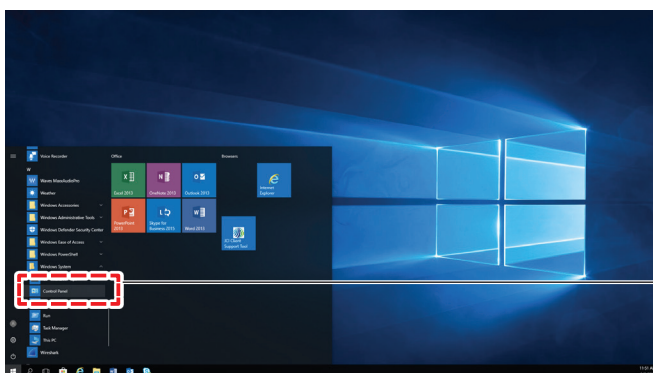
(2) Changing IP Address in Windows10®



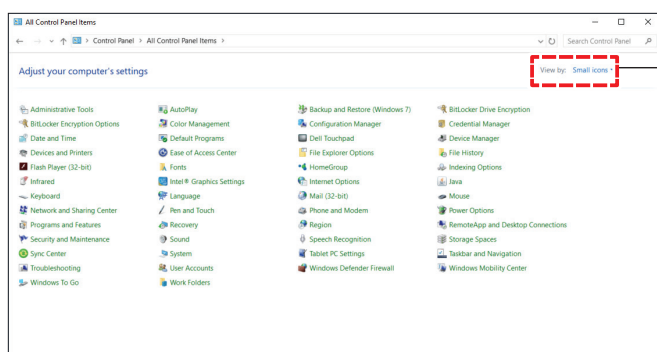
1. Click Start.



2. Click Windows system.



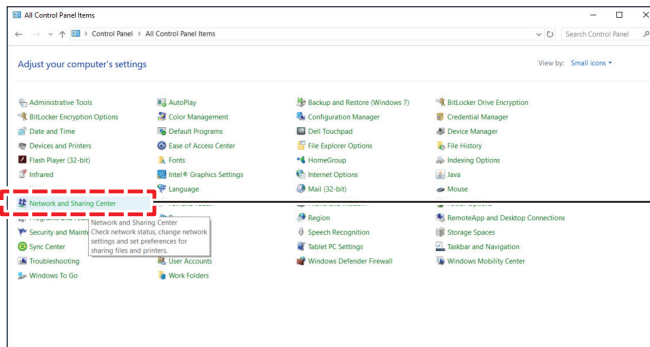
3. Click Control Panel.



4. Select Small Icons from View by.

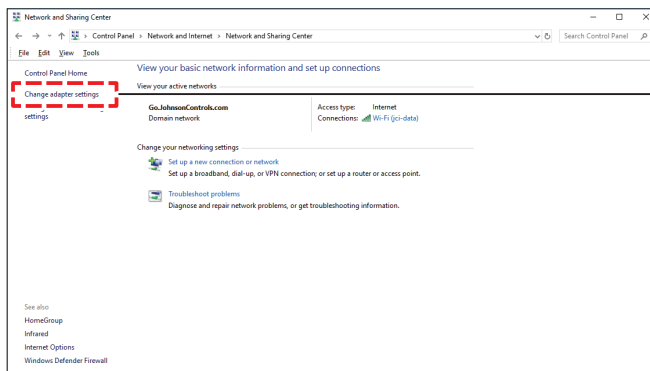
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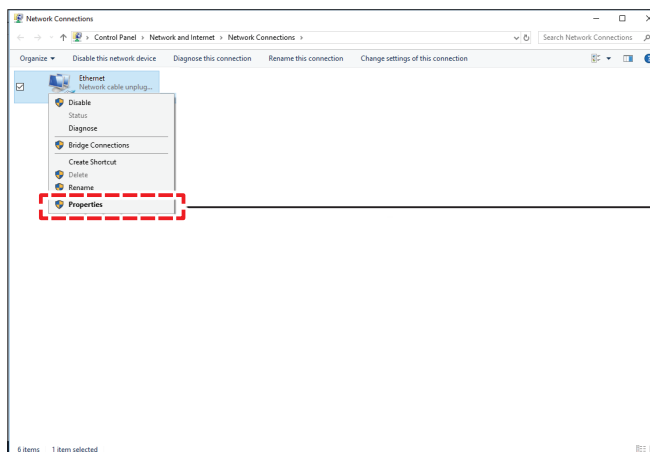
5

5. Open Network and Sharing Center.



6

6. Click Change Adapter Settings.

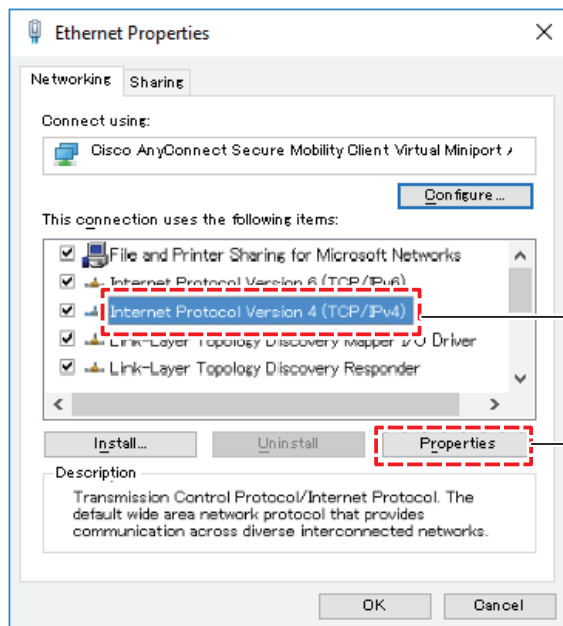


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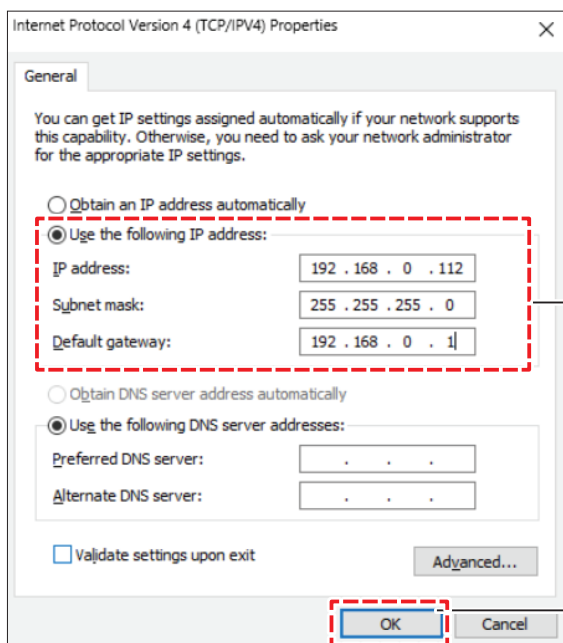
7. Right-click Ethernet, and then select Properties.

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8. Select Internet Protocol Version 4 (TCP/IPv4), and then click Properties.

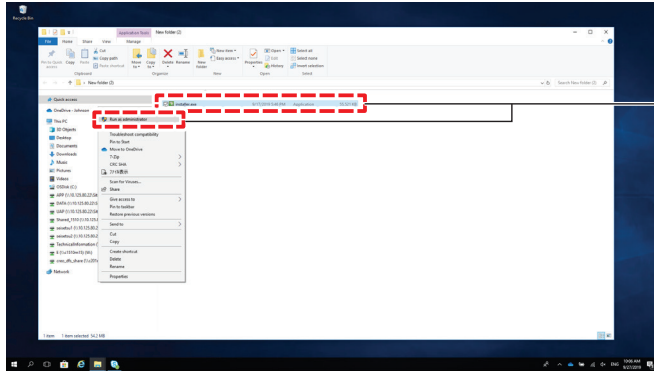


9. Enter IP address, Subnet mask, and Default gateway, and then click OK.

5. Setup

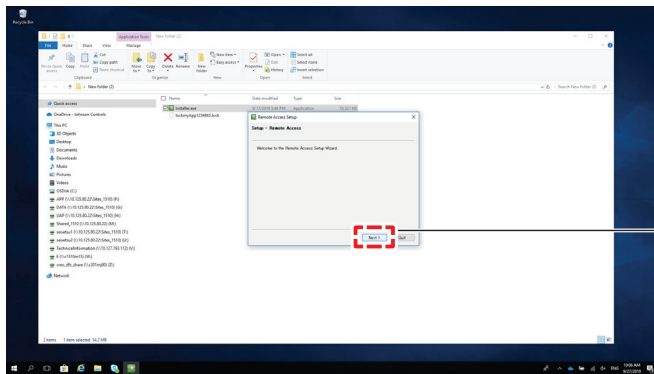
5.1 Installation

5.1.1 Installing Remote Access software



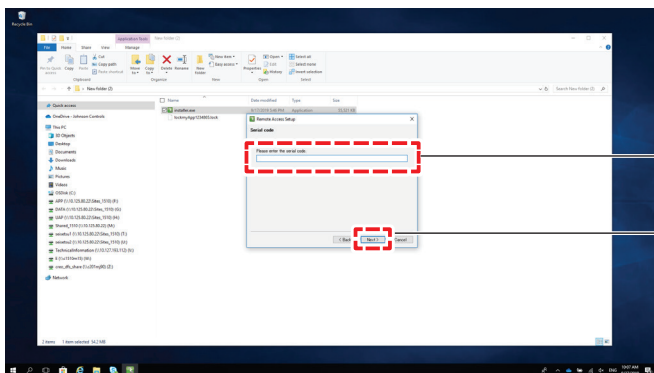
1

1. Insert the SD memory card of Remote Access software into the SD memory card drive of the PC prepared for Remote Access software. Right-click “installer.exe”, and click “Run as administrator”.



2

2. Click the [Next] button to install the software on the PC.



3

4

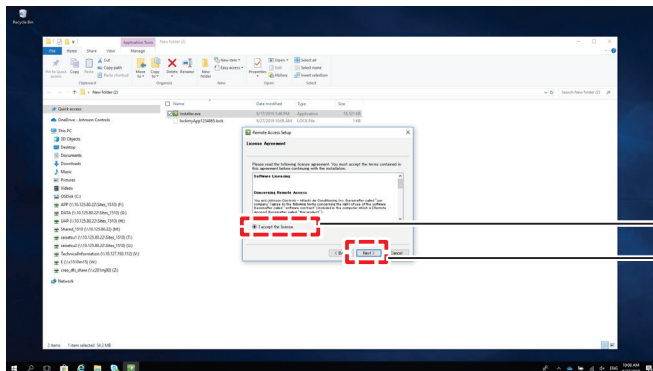
3. Select the input box and enter the serial code.

- The serial code is “60292296”.

4. Click the [Next] button.

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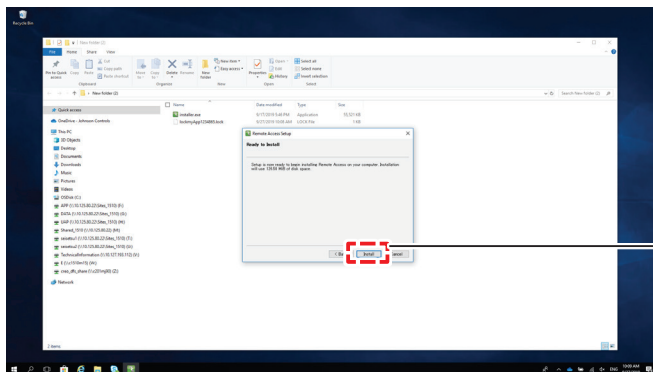
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6

5. After confirming the software license agreement, click "I agree to the software license agreement."

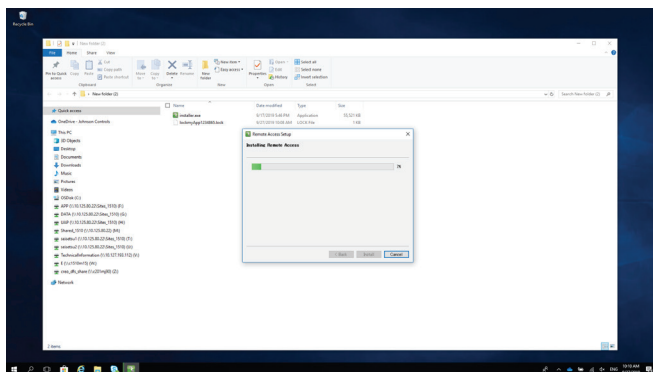
6. Click the [Next] button.

Note that you cannot click the [Next] button until you agree to the software license agreement.



7

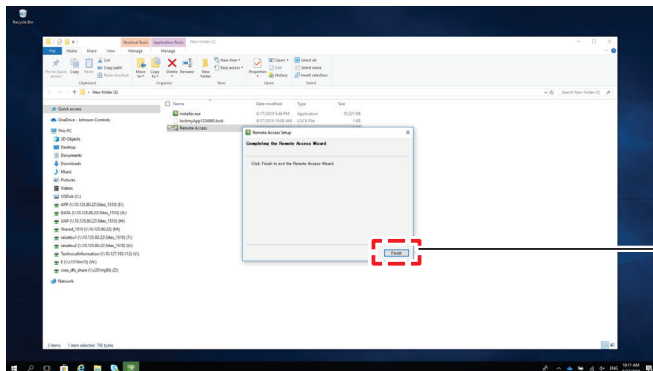
7. Click the [Install] button.



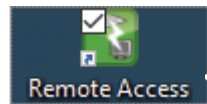
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8. Installation begins.
The software will be installed on C drive.
Note that you cannot change the installation destination.

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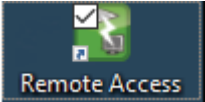
9. Click the [Finish] button and the installation will be complete.



10. Confirm that the shortcut icon for Remote Access software has been created on the PC desktop.

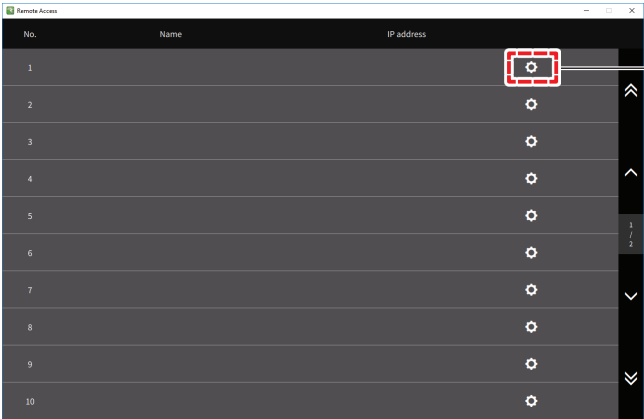
5.2 Starting Remote Access

5.2.1 Setting IP Address of Central Station EX



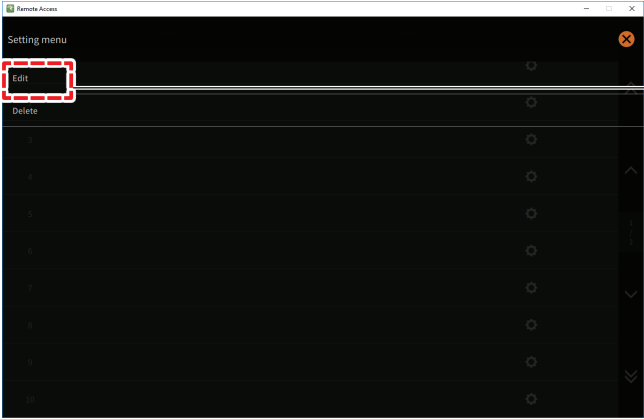
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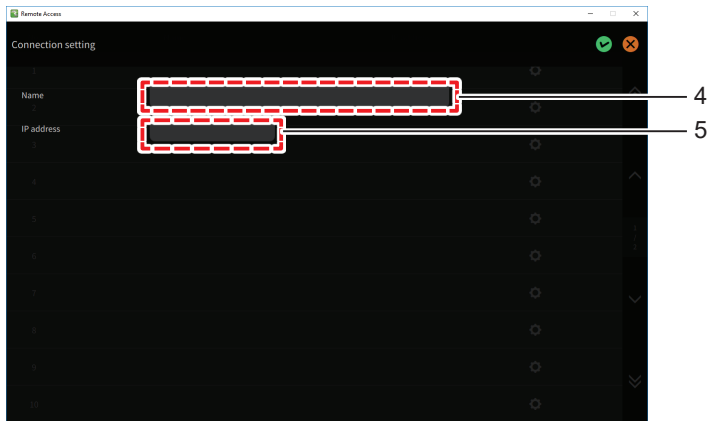
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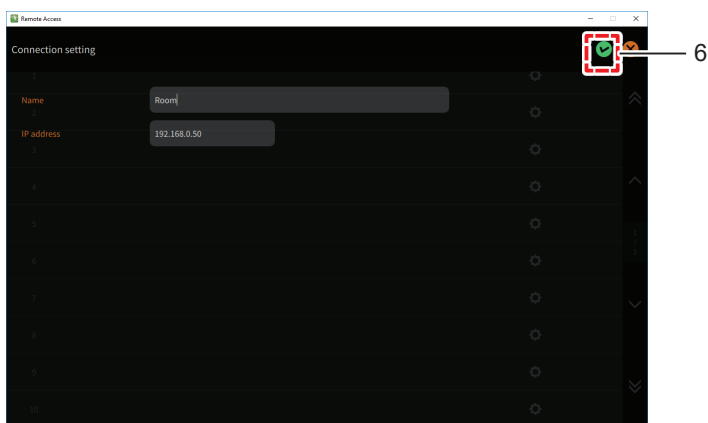
1. Double-click the shortcut icon for Remote Access software.
2. Tap .
Setting menu is shown.
3. Tap **Edit**.
Connection Setting window is shown.

Continue from previous page.



4. Select the input box and enter the connection setting name.
Up to 16 characters can be entered.

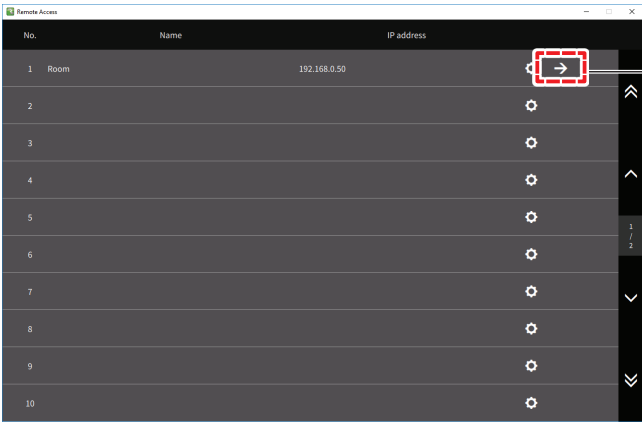
5. Select the input box and enter the IP address of the Central Station EX.



6. Tap  to confirm and save the setting.

- Repeat step 2 to 6 to register more connection Settings.
- Up to 16 central controllers can be registered on 1 PC with Remote Access software installed.
1 PC can access only 1 central controller at a time.

5.2.2 Starting Remote Access



1

1. Tap → .
Remote Access software will start.

- Refer to the operation manual for Central Station EX for the operation after startup. Refer to the operation manual for Energy Calculation Software if in use.
- The time on Central Station EX and the PC with Remote Access installed, and the setting of daylight saving time should be the same when daylight saving time is active on the PC.
- When the time on Central Station EX and the PC with Remote Access installed are different, set daylight saving time on the PC inactive.
- Do not select “2 hours” for shifting time when Remote Access is in use.

6. Troubleshooting

Check the following table before contacting a distributor for maintenance.

Item	Phenomenon	Check	Action
1	Remote Access software does not start when double-clicking the shortcut for Remote Access software on the PC desktop.	Did you install the software with administrator privileges?	Reinstall the software according to the installation procedure in the operation manual for Remote Access.
		Does the PC meet the specifications?	Install the software on the PC which meets the specifications shown in the operation manual for Remote Access.
		Do you have enough free space on the hard disk?	Ensure enough free disk space according to the specifications shown in the operation manual for Remote Access.
2	• The Message “Could not connect to the controller. Check access address and network.” is shown at Remote Access software start-up. • No unit is shown on the monitor window after Remote Access software start-up. • The display is not updated after Remote Access software start-up.	Is the access address correct?	Verify the address of the target Central Station EX and set the correct access address.
		Is the LAN wiring between Central Station EX and the PC disconnected?	Verify the LAN wiring between Central Station EX and the PC.
		Are settings for Central Station EX completed?	Register networks and monitoring targets.
		Is communication bandwidth of line sufficient?	Contact the network administrator manages the LAN or the internet service provider you contract with.
		Is the power of Central Station EX turned on?	Turn on the power of Central Station EX.

7. Cleaning

- Wipe off the dirt using a soft, dry and clean cloth. If the screen surface of Central Station EX is very dirty, soak a soft cloth in water with a very small amount of neutral detergent, completely squeeze the cloth, gently wipe the dirt, and wipe off the moisture with a dry, soft cloth.
- Do not use benzene, paint thinner, or surfactant for cleaning.

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