

# System Controller SCU-401-12M,-24M

# Installation Manual

Potential dangers from accidents during installation and use are divided into the following two categories. Closely observe these warnings, they are critical to your safety.



## WARNING

WARNING indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



## CAUTION

CAUTION indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.



Disconnect  
Power



Ground

## Requests to Installers



## WARNING

In order to use this product safely, read this installation manual carefully and follow the installation instructions.

- Failures and damage caused by erroneous work or work not as instructed in this manual are not covered by the warranty.
- Refer to installation manual attached to the appliance as well.
- Check that installation was done in accordance with this Installation Manual upon completion.
- After completion of installation, be sure to hand this Installation Manual to the customer.



- When you fasten the screws on the terminals (Warning lamp terminal and so on), do not use electric drivers, impact drivers and so forth. Tightening with excessive force may cause the terminals to be damaged and lead to failures.

## Contents

1. Included Accessories .....	2	----- [RC-7649M] -----	
2. Optional Accessories .....	2	12. Remote Controller .....	21
3. Introduction .....	3	13. Remote initial setup .....	22
4. Installing the System Controller .....	4	14. Additional Remote features .....	25
5. Wiring Diagram .....	7	-----	
----- [RC-9018M] -----		15. Additional System Controller Features .....	28
6. Remote Controller .....	8	16. System design, Gas, and Water piping .....	32
7. Remote initial setup .....	10	17. Follow-up Service .....	36
8. Recirculation Pump Timer Setup .....	14	18. Dimensions .....	37
9. System Check Button .....	16	----- Service Manual -----	
10. Maintenance Monitors and Additional Settings .....	17	19. Procedure for replacing Main Controller in the System Controller .....	38
11. Additional Remote features .....	19	20. Procedure for replacing Sub Controller in the System Controller .....	39

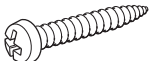

Note: If the system controller (SCU-401-12M,-24M) is installed in conjunction with the NC380-SV-ASME (with remote controller RC-7649M), the initial settings (refer to page 22) must be followed. Failure to change the initial settings may result in an error code “730” appearing on the remote controller.

If at any time during the installation and setup of this product you have questions or concerns, contact Noritz America at 866-766-7489 or visit <http://support.noritz.com/>.



## 1. Included Accessories

Check for any missing items before starting installation.

Part	Shape	Qty	Part	Shape	Qty
Anchoring Screw		5	*1 Assembly & Setup Instructions		1

\*1 Attached in the system controller.

## 2. Optional Accessories

Name	Usage	Qty
*2 Remote controller RC-9018M	*2 Always necessary except using NC380-SV-ASME.	1
Remote controller Cord RC-CORD10 RC-CORD26	-The communication cord between the system controller and the remote controller can be lengthened up to a maximum total length of 450 feet. -The communication cord between the system controller and each water heater can be lengthened up to a maximum total length of 45 feet.	Total number of units in system + 1
*3 NWC-ADAPTER (NAW-1 US)	For remote monitoring the multi-unit system through the Mobile App.	1

\*2 : RC-7649M only may be used when using NC380-SV-ASME.

\*3 : NWC-ADAPTER is not compatible with NC-380-SV-ASME.

CAUTION : Be sure to use the remote controller cord as listed above. If a different cord is used, the equipment may fail or not operate properly.

### ● When two or more multi-unit systems are installed in parallel

One remote controller is necessary for each multi-unit system (i. e. 3 multi-unit systems will require 3 system controllers and 3 remote controllers). Each system will have separately wired remote controller cords.

### ■ For the combined use pattern

#### A. When there is no circulation pipe (standard type)

Number of units	System controller	Remote controller
7 to 12	SCU-401-12M	*2 RC-9018M
13 to 24	SCU-401-24M	

\*2 : RC-7649M only may be used when using NC380-SV-ASME.

#### B. When there is a circulation pipe

Condition	Number of units	System controller	Remote controller
Recirculation type (circulation heat-retention with external pump)	7 to 12	SCU-401-12M	*2 RC-9018M
	13 to 24	SCU-401-24M	
Storage Tank Recirculation type (circulation heat-retention with external pump)	7 to 12	SCU-401-12M	
	13 to 24	SCU-401-24M	

\*2 : RC-7649M only may be used when using NC380-SV-ASME.

### 3. Introduction (see list of points below)

#### ■ Introduction to the “SCU-401” System Controller

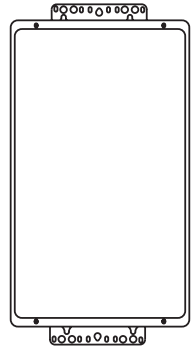
##### ● Overview

This manual is intended to provide instruction for the installation, operation, and features of the SCU-401 system controller. It is divided into 4 main sections:

1. Installation of the SCU-401 system controller
2. Initial programming of the remote controller
3. Additional features of the remote controller and the SCU-401 system controller
4. Plumbing diagrams and general information about water and gas piping

Read this manual carefully and follow the instructions as written.

If you have any questions, contact Noritz America at 866-766-7489 or visit <http://support.noritz.com/>.



##### ● Basic Operation

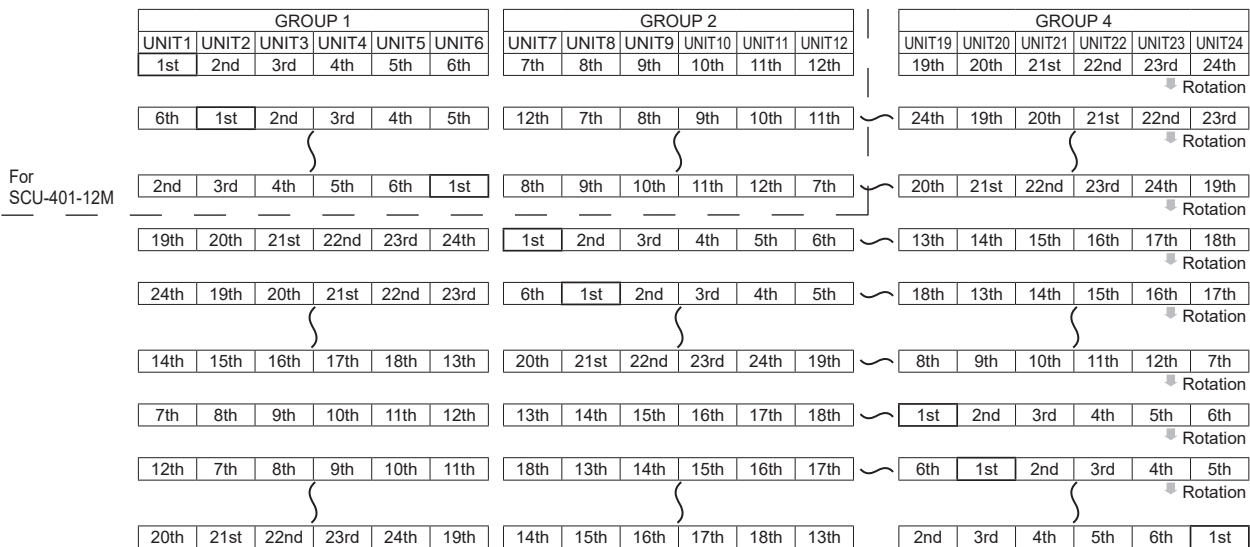
The SCU-401 system controller is used to combine 7 to 12 / 13 to 24 Noritz heaters into a single “multi-unit system.” The system controller stages units on and off based on hot water demand and rotates their operation to ensure even usage. It also has two additional modes which optimize the system for operation with a recirculation line or storage tank. (Note: for systems of 1 to 6 units use the SC-401-6M system controller)

##### ● Unit Staging

Staging allows the multi-unit system to track hot water demand from the minimum flow rate of a single unit up to the maximum output of several units. When the primary firing heater reaches ~50% of its maximum output, the system controller activates the next unit in the system. When both these units reach ~50% of their maximum output, a third unit is activated and so on. The SCU-401 may also be configured to activate two heaters during primary firing to allow for rapid initial hot water demand.

##### ● Unit Rotation

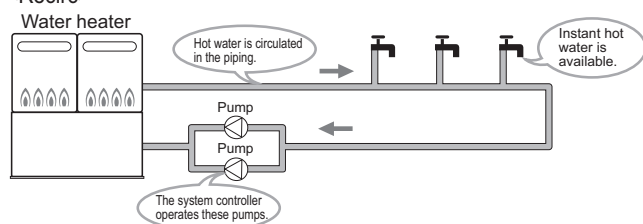
The SCU-401 system controller rotates operation of the primary firing heater every 8 hours of combustion time. This helps to ensure even usage of all units.



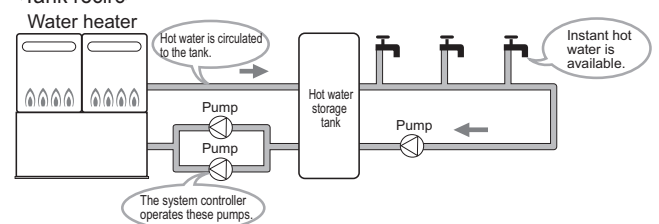
##### ● System Selection

The SCU-401 allows the user to select two additional system types: “Recirc” and “Tank recirc.” These settings optimize performance with recirculation and storage tank systems, and allow the system controller to operate one or two pumps.

<Recirc>



<Tank recirc>



\* These diagrams are for illustration purposes only.

## 4. Installing the System Controller

### ■ Securing to the wall



Be sure to do

- The weight of the device will be applied to the wall. If the strength of the wall is not sufficient, reinforcement must be done to prevent the transfer of vibration.
- Do not drop or apply unnecessary force to the device when installing. Internal parts may be damaged and may become highly dangerous.
- Install the unit on a vertical wall and ensure that it is level.

Item	Check	Illustration
Locating Screw Holes	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <b>CAUTION</b> <ul style="list-style-type: none"> <li>• When installing with bare hands, take caution to not inflict injury.</li> <li>• We recommend using gloves.</li> <li>• Be careful not to hit electrical wiring, gas, or water piping while drilling holes.</li> </ul> </div> <ol style="list-style-type: none"> <li>1. Drill a single screw hole, making sure to hit a stud.</li> <li>2. Insert and tighten the screw and hang the unit by the upper wall mounting bracket.</li> <li>3. Determine and mark the positions for the remaining four screws (two for the top bracket and two for the bottom), and remove the unit.</li> </ol>	<p>Location of Screw Hole</p> <p>Mounting Bracket (upper)</p> <p>Locating Screw Holes</p>
Mounting	<ol style="list-style-type: none"> <li>4. Drill holes for the remaining four screws. Use wall anchors if necessary.</li> <li>5. Hang the unit again by the first screw, and then insert and tighten the remaining four screws.</li> <li>6. Take waterproofing measures so that water does not enter the building from screws mounting the device.</li> </ol>	<p>Anchoring Screws</p> <p>Wall Anchors</p> <p>Anchoring Screws</p>
Structure	<ul style="list-style-type: none"> <li>• Make sure the unit is installed securely so that it will not fall or move due to vibrations or earthquakes.</li> </ul>	

### ■ Electrical Wiring

Consult a qualified electrician for the electrical work.



### CAUTION

- Do not connect electrical power to all water heaters and system controller (do not turn ON the power supply) before all electric wiring is completed. Otherwise, electric shock or failure of the water heater and system controller may occur.
- If a remote controller cord is not connected, there is a case that unexpected temperature flows out. So check it is surely connected.
- Be sure to tighten the screw to the terminal block manually and do not use an electric screwdriver or impact driver. Otherwise, the terminal block may be damaged.

This appliance must be electrically grounded in accordance with local codes, or in the absence of local codes, with the National Electrical Code, ANSI/NFPA 70. In Canada, the latest CSA C22.1 Electrical Code.

**Caution:** Label all wires prior to disconnection when servicing controls. Wiring errors can cause improper and dangerous operation.

Verify proper operation after servicing.

Field wiring to be performed at time of appliance installation.



## WARNING

### Electrical Shock Hazard

Do not turn power on until electrical wiring is finished. Disconnect power before servicing.  
Failure to do so may result in death or serious injury from electrical shock.

- The electrical supply required by the system controller is 120VAC at 60 Hz.  
Use an appropriate circuit.
- For instructions on connecting the power cord, refer to the "Procedure of connecting the power cord to system controller" sheet attached in the system controller.

- Do not let the power cord contact the gas piping.

Tie the redundant power cord outside the system controller. Putting the redundant length of cord inside the system controller may cause electrical interference and faulty operation.

### Ground

- To prevent electrical shock, provide a ground with resistance less than 100  $\Omega$ .  
An electrician should do this work.

Do not connect the ground to the city water or gas piping. Do not tie the ground to a telephone line.

### Breaker Installation

- Mount a device which shuts off the electrical path automatically (leakage breaker) when electrical leakage is detected.



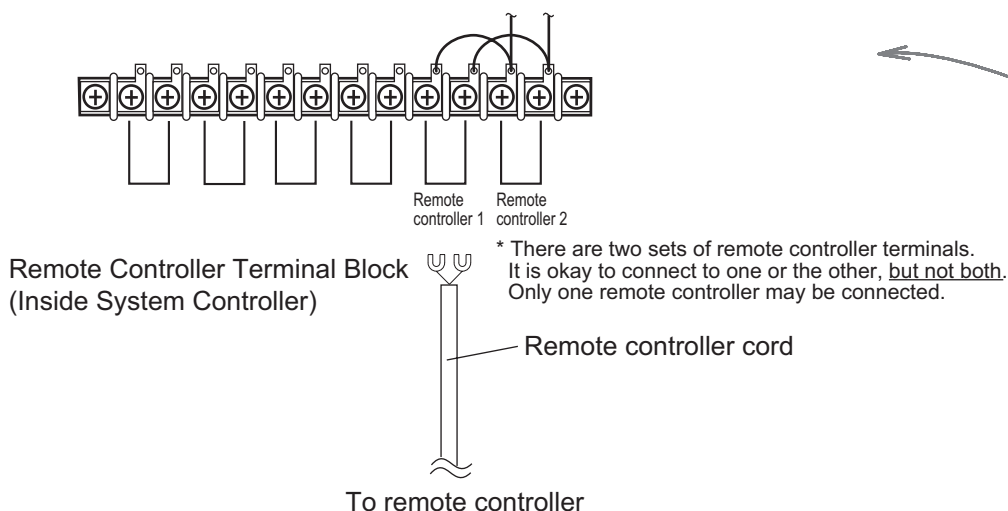
## CAUTION

Electrostatic discharge can affect electronic components. Take precautions to prevent electrostatic discharges from personnel or hand tools during the system controller installation and servicing to protect the product's electronic control.

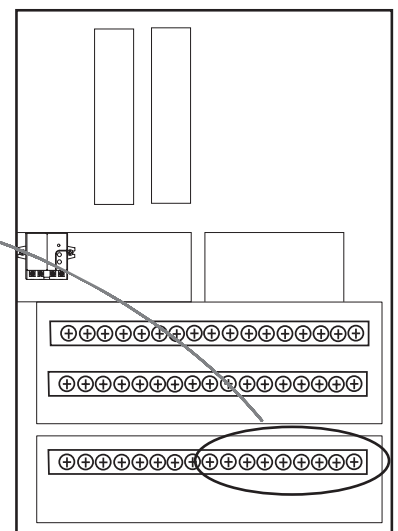
### ■ Connection with Remote controller

Connect the communication cord with the remote controller.

1. Pass the remote controller cord through one (need to be cut to make a hole) of the grommets in the base of the system controller. Connect the Y terminals to the remote controller terminal block as shown below.
2. Install the remote controller as outlined in the water heater installation manual.



### System controller



\* Do not connect the communication cord from the units to the remote controller terminal block.  
A malfunction will occur.

## ■ Connection with Water Heater      Connect the communication cords with the water heaters.

Before making wiring connections from each unit to the system controller, make sure that the electrical power of each unit including the system controller has been disconnected.

1. Remove the front cover from the system controller and the cover of the external remote controller cord terminal block of each water heater.

### ● Connecting the communication cord to Unit 1

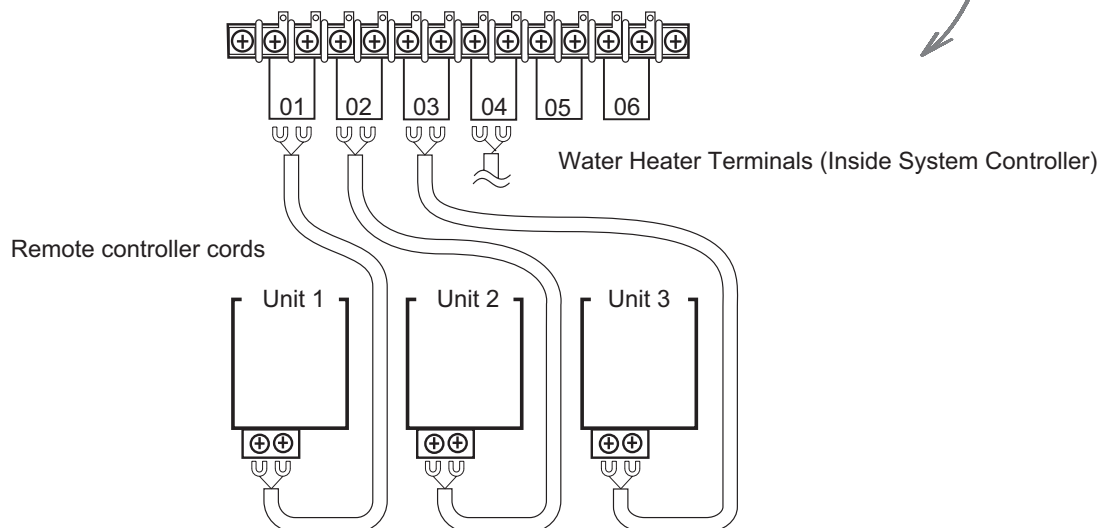
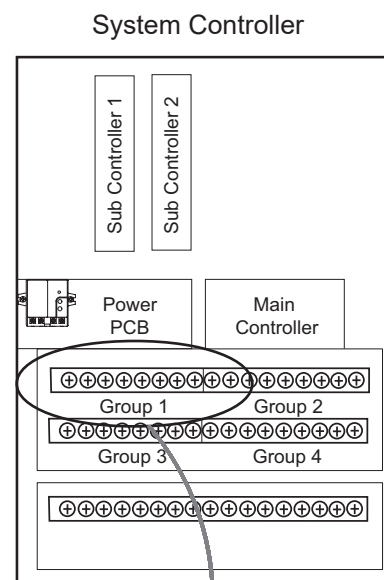
2. Using the remote controller cord supplied with the water heater, insert the end with Y terminals through one (need to be cut to make a hole) of the grommets in the base of the system controller. Connect the Y terminals to terminal block "01".
3. Cut off the connector on the other end of the remote controller cord. Attach the Y terminals in place of the connector.
4. Connect the free end of the remote controller cord to the external remote controller cord terminal block of Unit 1.

### ● Connecting the communication cord to Units 2-24

5. Connect Units 2-24 in the same way as Unit 1. Be sure to connect the units to the water heater terminals in the system controller, following the list of connections of water heaters.

\* For the terminal block that is not used, nothing should be done.

\* After all connections are made, replace the front cover of the system controller (taking special care to do not crush any wires) and the covers of the external remote controller cord terminal blocks of all connected water heaters.



Terminal block\* for remote controller cord.

\* The terminal block is depending on each water heater.

Refer to the water heater's installation manual for detail information.

### List of connections of water heaters

\*Connect water heaters at the gray points.

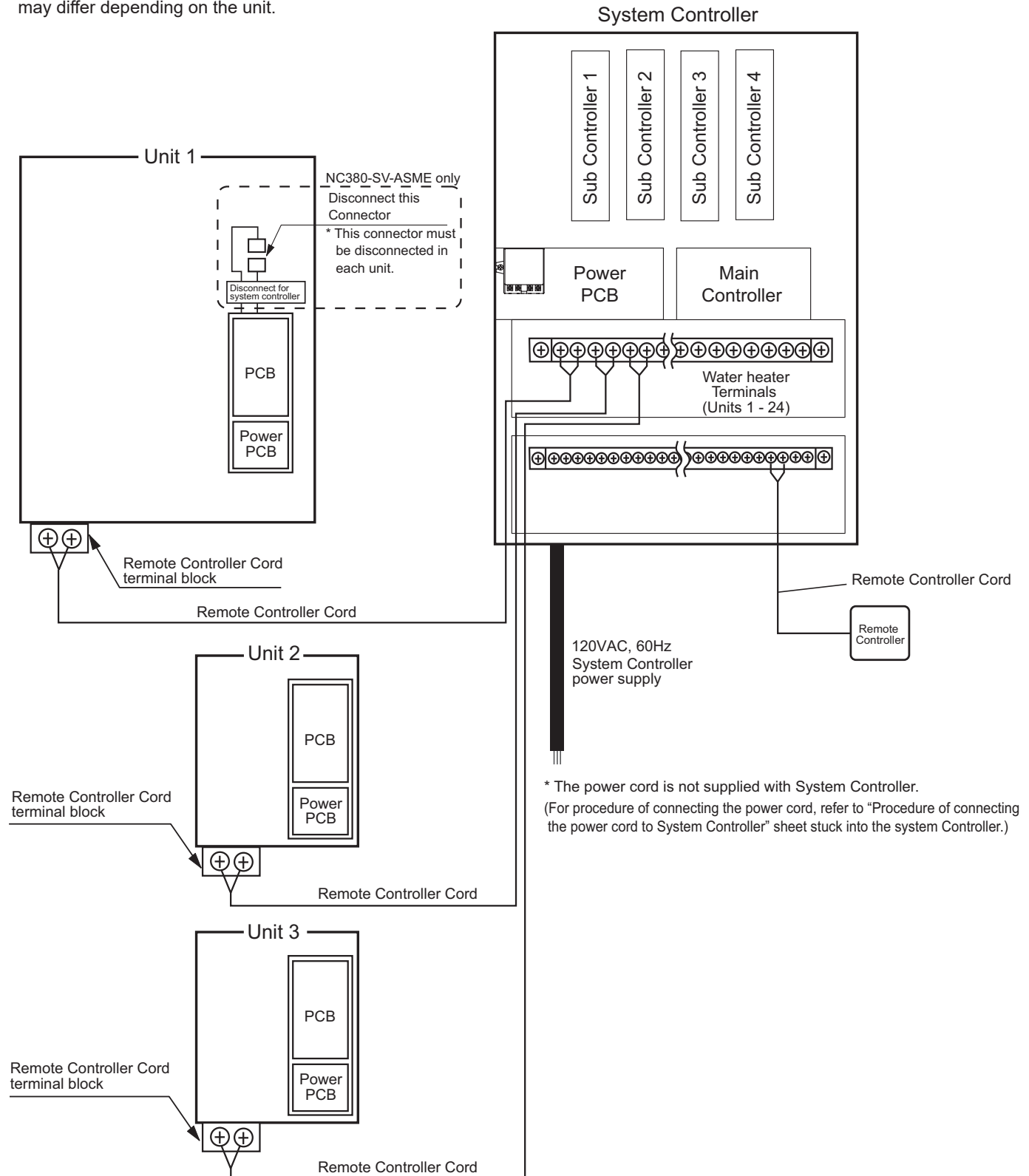
Group No.	Group 1						Group 2						Group 3 (Only -24M)						Group 4 (Only -24M)						Number of connected units			
Sub power of each sub controller																												
Water Heater Terminal No.	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Group 1	Group 2	Group 3	Group 4
7 units																									4 units	3 units	0 units	0 unit
8 units																									4 units	4 units	0 units	0 unit
9 units																									5 units	4 units	0 units	0 unit
10 units																									5 units	5 units	0 units	0 unit
11 units																									6 units	5 units	0 units	0 unit
12 units																									6 units	6 units	0 units	0 unit
13 units																									6 units	5 units	2 units	0 unit
14 units																									6 units	6 units	2 units	0 unit
15 units																									6 units	6 units	3 units	0 unit
16 units																									6 units	6 units	4 units	0 unit
17 units																									6 units	6 units	5 units	0 unit
18 units																									6 units	6 units	6 units	0 unit
19 units																									6 units	6 units	5 units	2 units
20 units																									6 units	6 units	6 units	2 units
21 units																									6 units	6 units	6 units	3 units
22 units																									6 units	6 units	6 units	4 units
23 units																									6 units	6 units	6 units	5 units
24 units																									6 units	6 units	6 units	6 units

## 5. Wiring Diagram

### CAUTION

- The below diagram shows the connection of 3 units to the system controller.  
When connecting 4 or more units, follow the same procedure.
- Connect the water heaters to the system controller following the detailed wiring instructions included with the system controller.
- Always connect a remote controller to the system controller.

\* The remote controller terminal location may differ depending on the unit.



\* The power cord is not supplied with System Controller.  
(For procedure of connecting the power cord, refer to "Procedure of connecting the power cord to System Controller" sheet stuck into the system Controller.)



## 6. Remote Controller

■ Remote Controller (Required Accessory : RC-9018M) \*Using NC380 models, refer to RC-7649M section (page 21).

◆ The remote controller will emit a tone when a button is pressed.

\* This Remote Controller is not resistant to water, steam, chemicals, or UV rays. Install it in a location where it will not be exposed to these conditions. If it must be installed outdoors, use a weatherproof enclosure. Refer the RC-9018M Installation Manual for details.

### Prog Button / Indicator (Red)

Activates the automatic water heater power "ON" or "OFF" setting as determined by the user selected schedule.

### Power ON / OFF Button / Indicator (Green)

For turning the water heater on/off.

### Alarm Off Button / Indicator (Red)

Stops the tone that is emitted when an error occurs. (page 36.)

### Speaker

### Display Screen

(Next page)

### Menu Button

- \* Use to change system settings or to return to the home screen.
- \* If you press the menu button and press the temperature setting buttons, **Sys monitor** is sometimes displayed. However, do not use this mode as it is meant for installation or service personnel only.

### Status Button

Check the status of the system or the number of installed units. (page 16, 36.)

### Remote Controller Part Number

The part number is printed on the surface of the cover.

Cover shown in the open position.

### Lock Button

Locks remote controller operation. (page 20.)

### Back Button

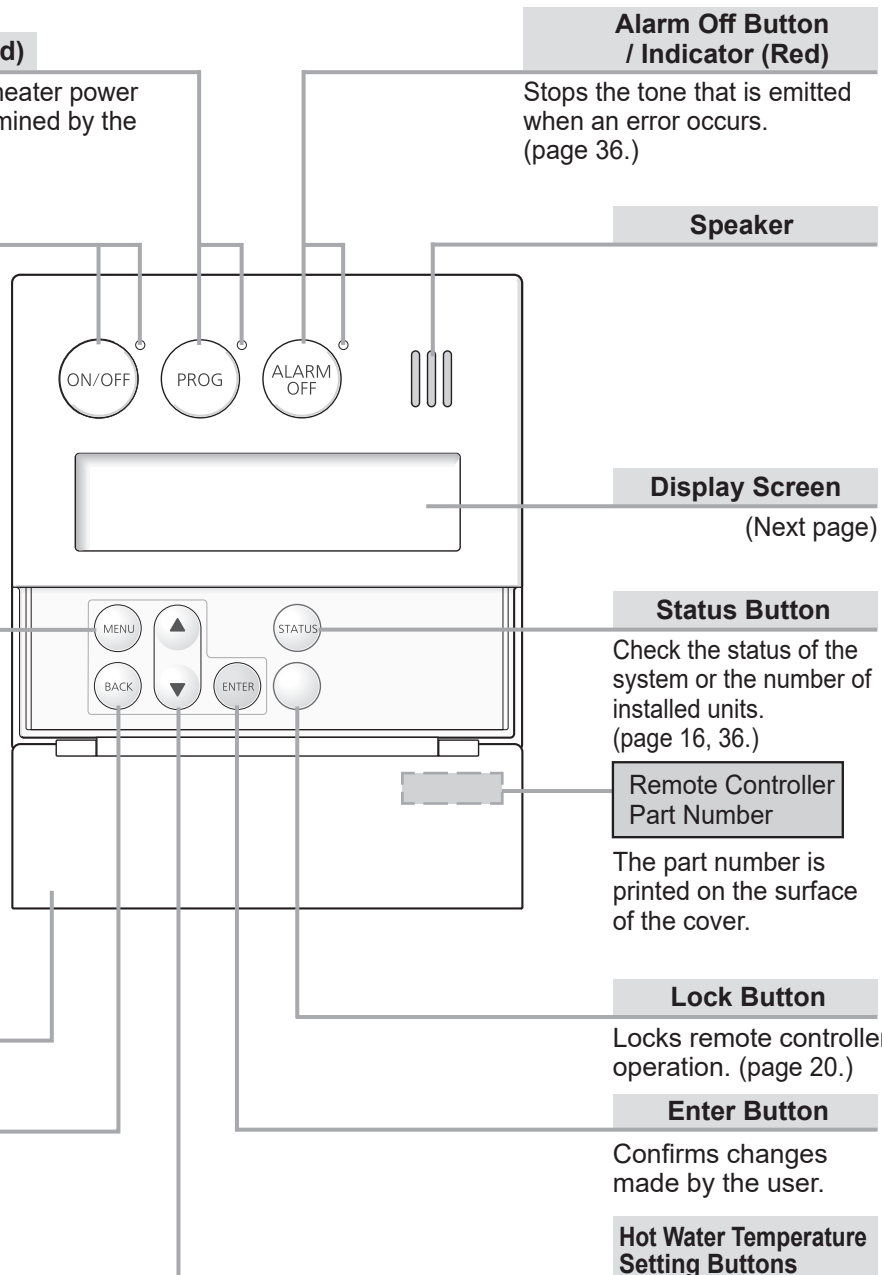
Returns to the previous screen while making system settings or checking status.

### Enter Button

Confirms changes made by the user.

### Hot Water Temperature Setting Buttons

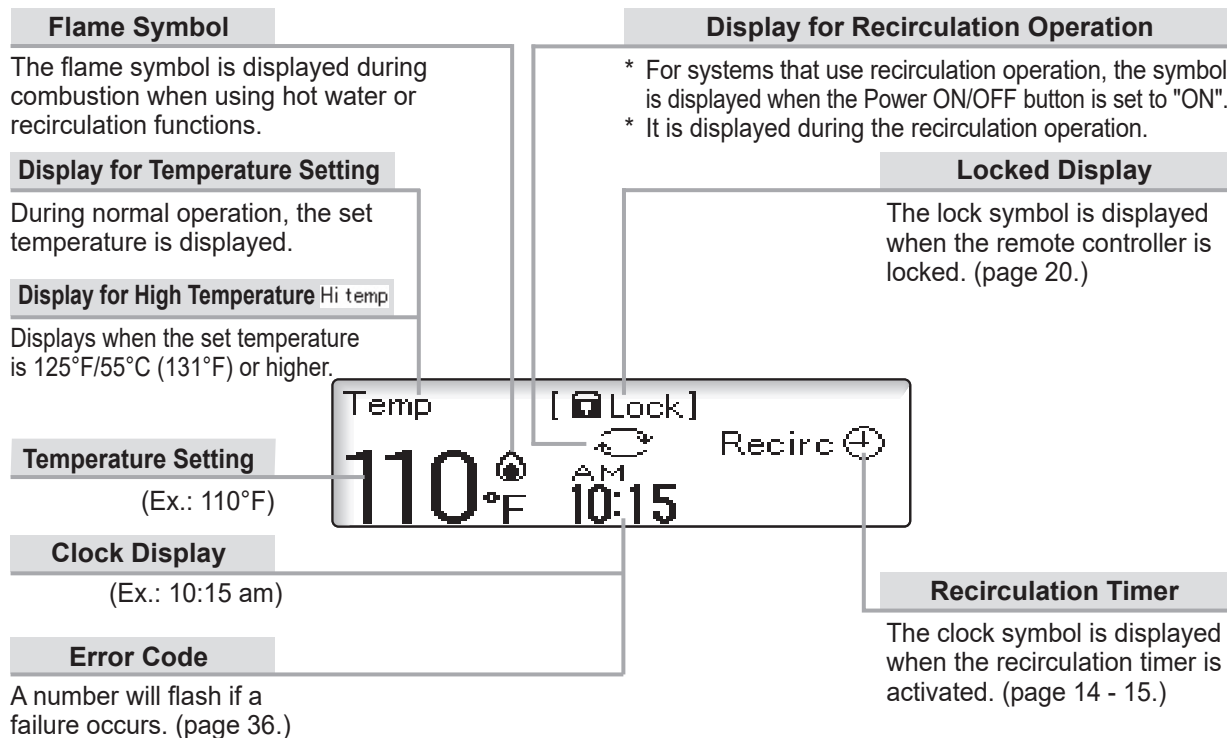
For setting the hot water temperature, and other settings.






## ◆ Screen Display

- \* The screen display shown below is for illustration purposes only.  
The actual display will vary depending on how the water heater is being used.
- \* After a button is pressed, the display will gradually become darker to prevent unnecessary power consumption by the remote controller.

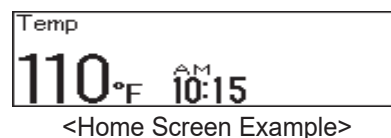


Note: As shipped from the factory, the remote controller is set to display in °F and gallons.  
To adjust the display to °C and liters, refer to the page 13.

## ● What is the home screen? ●

The home screen is displayed when the  button is "ON".

Normally, the hot water temperature and the clock, etc. are displayed.




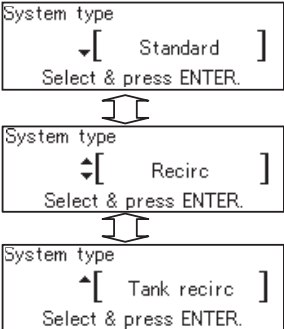


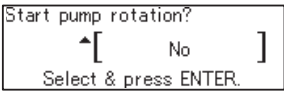

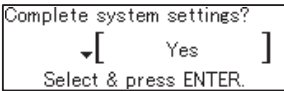
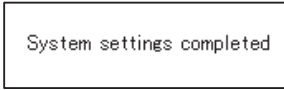



## 7. Remote initial setup

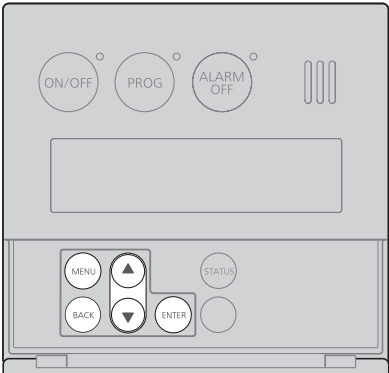
### Initial Setting Procedure in the “System Settings” Screen



Note: When power is first connected to the multi-unit system (system controller and units), the remote enters an initial setting mode. The following instructions explain how to perform an initial setting. If you need to change these settings at a future date, follow the instructions titled System Selection and Settings in the “Initial Settings” Screen (page 11 - 13).

Operation	Screen Display	Description
<b>Preparation</b> Connect power to all heaters and system controller in multi-unit system.		
<b>1</b> Press the  button on the remote.		
<b>2</b> 1) You will be prompted to choose a system type. 2) Use the  buttons to navigate to the correct system type. (Standard, Recirc., or Tank Recirc.) 3) Press the  button to select your system type.		
<b>3</b> 1) If you chose the “Recirc.” or “Tank Recirc.” systems, you will be prompted to turn pump rotation on or off (this setting is set to “off” by default). 2) Use the  buttons to select yes (on) or no (off). 3) Press the  button to set the pump rotation.		<p>* Note: only when you connect one/two pumps to the system controller, you need to select “Yes” or “No”.</p>
<b>4</b> 1) You will now be prompted to “complete system setting.” 2) Press the  button to complete the system setting. 3) Once you choose “Complete system settings?”, the remote will display “System settings completed”.	 	<p>* Note: if you chose standard system in step 2 - 2), you will immediately go to this prompt.</p> <p>* You may use the  button to return to the previous menu at any time.</p>



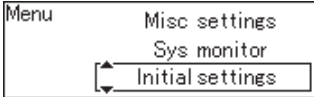

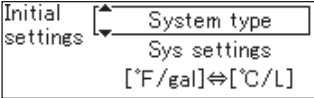

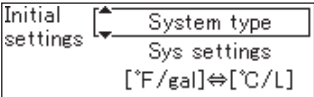
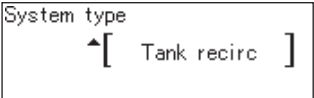



■ System Selection and Settings in the “Initial Settings” Screen

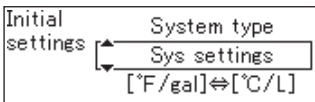

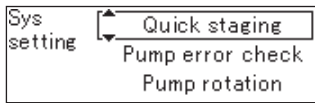



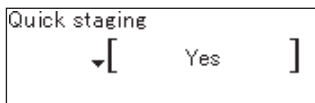



Note: Use this procedure if you need to change the system type or settings after running the “initial setting procedure”

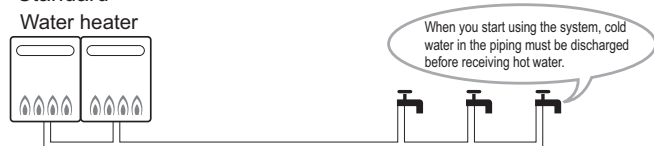
List of the Initial settings

System type	The system type can be changed.
Sys settings	The system settings can be changed.
[°F/gal]↔[°C/L]	The unit of temperature and flow rate on the screen can be changed.
Adjust clock	The gap of time per month on the clock can be adjusted.
Save backlight	The power saving setting of the backlight on the screen can be changed.

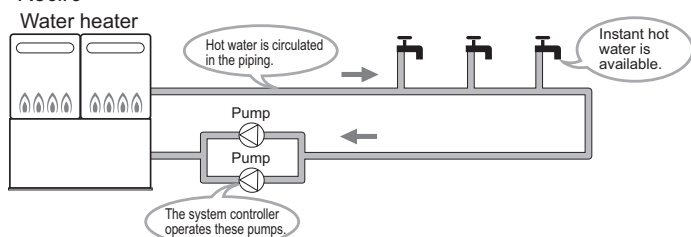
Operation	Screen Display	Description
Access Initial Settings Menu.		
Preparation	1) Turn Remote off. 2) Disconnect Power to all heaters and system controller in the multi-unit system. 3) Wait 10 seconds or more. 4) Reconnect power, DO NOT turn remote on.	
1	Press the  button.	
2	Use the  buttons “▼” to navigate to “Initial settings.”	
3	Press the  button to access the initial settings menu.	  * You may use the  button to return to the previous menu at any time.
Change System Type		
1	In the initial settings menu select “System type”.	
2	The menu will have three options: Standard, Recirc., and Tank Recirc.	
3	1) Use the  buttons to navigate to the appropriate system. 2) Press the  button to select the desired system.	
4	Once a system is selected, the remote will display “Set Complete”.	  * You may use the  button to return to the previous menu at any time.

Operation	Screen Display	Description
<b>Change System Settings.</b>		
<b>1</b> In the initial settings menu select “Sys settings”.		
<b>2</b> 1) The “Sys settings” menu will display several options for the selected system type. 2) Press the  button to select the system setting you would like to alter.		
<b>3</b> 1) Use the  buttons to turn the feature on (“yes”) or off (“no”). 2) Press the  button to select “yes” or “no”. 3) The display will say “Set complete” once an option is chosen.	 	* You may use the  button to return to the previous menu at any time.

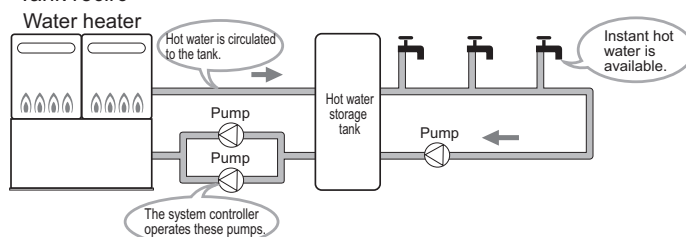
<Standard>



<Recirc>



<Tank recirc>


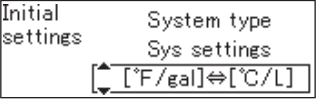






\* These diagrams are for illustration purposes only.

### List of the Sys settings

Item in the Sys settings	system type			Yes	No
	Standard	Recirc	Tank recirc		
Quick staging	Available	Available	Not Available	Units will stage more rapidly from heater to heater*	Units will stage more slowly
Pump error check	Not Available	Available	Available	System will check for flow when system controller pump terminals are energized. If no flow is present, it will display 63 error code	System will not check for pump operation*
Pump rotation	Not Available	Available	Available	System will rotate pump 1 and 2 operations	Pump 1 and 2 will operate simultaneously*

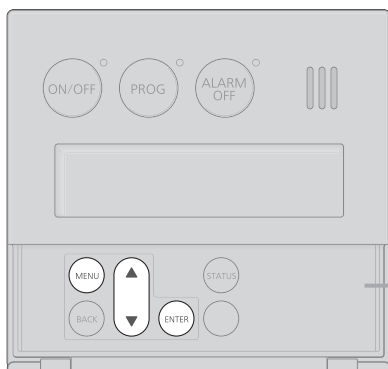
\*Factory Default Settings

Operation	Screen Display	Description
Change the way the units of temperature and flow rate are displayed on the screen (standard vs. metric).		
<b>1</b> <ol style="list-style-type: none"> <li>1) In the initial settings menu select "[°F / gal] ⇌ [°C / L]".</li> <li>2) Press the  button.</li> </ol>		
<b>2</b> <ol style="list-style-type: none"> <li>1) Use the  buttons to select the unit "[°F / gal]" or "[°C / L]".</li> <li>2) Press the  button to set the units to be displayed.</li> <li>3) The display will say "Set complete" once an option is chosen.</li> </ol>		<p>* You may use the  button to return to the previous menu at any time.</p>
After finishing the Initial Settings.		
<b>1</b> <ol style="list-style-type: none"> <li>1) Disconnect Power to all heaters and system controller in the multi-unit system.</li> <li>2) Wait 10 seconds or more.</li> <li>3) Reconnect power.</li> </ol>		

## 8. Recirculation Pump Timer Setup

\*This functionality is only available if you have selected "Recirc" as your system type in the "Initial Setting Procedure" and "System Selection and Settings" on page 10 to 11.

### ■ For System [ Rcirc ] Setting the Recirculation System Operation Timer







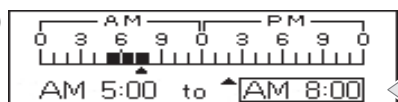

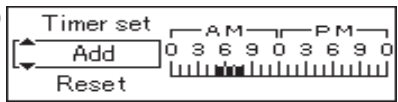
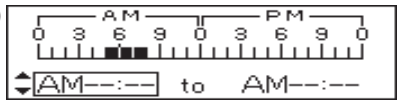

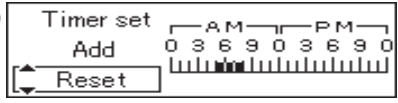
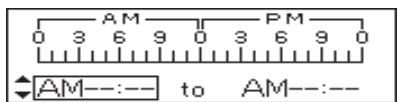
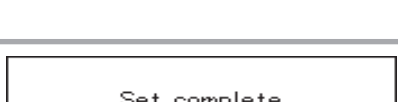


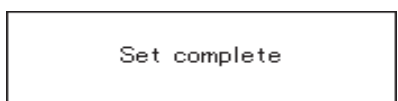
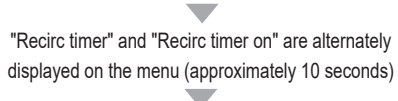




Cover shown in the open position.





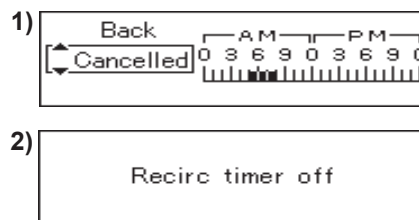
- \* With the recirculation operation timer set, hot water will be automatically circulated in the hot water pipes. Even with this function activated, it may take several minutes for hot water to be completely circulated through the plumbing system. Set the timer to activate the recirculation system prior to the first use of hot water to ensure hot water is instantly available.
- \* Multiple recirculation time periods can be set.
- \* Until the timer is deactivated (Next Page), the recirculation system will operate daily at the set times.
- \* When the recirculation system is turned "OFF" by the timer, the water heater will still remain "ON" and can be used normally.

Operation	Screen Display	Description
This example describes setting the recirculation system to operate between 5:00 am - 8:00 am.		
<b>Preparation</b> Check that the current time is properly set. (Setting the time page 19.)		
<b>1</b> 1) Press the  button inside the cover, Select "Recirc menu" using the  buttons. 2) Press the  button.	1) Menu Set clock Set PROG Recirc menu 2) Recirc Menu Synchro ON/OFF Recirc on/off Recirc timer	* You can set the timer regardless if the  button is "ON" or "OFF".
<b>2</b> 1) Select "Recirc timer" using the  buttons. 2) Press the  button.	1) Recirc Menu Synchro ON/OFF Recirc on/off Recirc timer (Example of a display) 2) 0 3 6 9 0 3 6 9 0 AM PM AM--:-- to AM--:--	* The previous setting is displayed.
<b>3</b> 1) Select "AM5:00" using the  buttons. 2) Press the  button to complete the "Start" time setting.	1) 0 3 6 9 0 3 6 9 0 AM PM Here AM 5:00 to AM 6:00 2) 0 3 6 9 0 3 6 9 0 AM PM AM 5:00 to AM 6:00	* Every time when you press the button, the time changes by one hour. [To keep the current "Start" time] Press the  button without changing the "Start" time, and proceed to step 4. [To add additional time periods to the current setting, or to cancel the previous setting] 1) Press the  button without setting "Start" time. 2) Press the  button without setting "End" time. 3) Follow the procedures "Adding Additional Time Periods" or "Resetting All Time Periods" (Next Page).


Operation	Screen Display	Description
<div>4</div> <div>1) Select "AM8:00" using the  buttons.</div> <div>2) Press the  button to complete the "End" time setting.</div> <div>&lt;Adding Additional Time Periods&gt;</div> <div>1) Select "Add" using the  buttons.</div> <div>2) Press the  button.</div> <div>3) Select the time period following the procedures in Steps 3 to 4.</div> <div>&lt;Resetting All Time Periods&gt;</div> <div>1) Select "Reset" using the  buttons.</div> <div>2) Press the  button.</div> <div>(All settings are cleared.)</div> <div>3) Adjust the time period following the procedures in Steps 3 to 4.</div>	<div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div>	<div>* Every time when you press the button, the time changes by one hour. [To keep the current "End" time] Press the  button without changing the "End" time, and proceed to step 5.</div> <div>* You can set multiple operation time periods.</div>
<div>5</div> <div>Press the  button to complete the time settings.</div>	<div></div> <div></div> <div></div> <div>(Example of home screen when the Power ON/OFF button is turned "ON")</div>	<div>* The timer will not activate without pressing the  button.</div> <div>* If the time is not set, the time setting screen is displayed.</div> <div>* Until the timer is deactivated, the recirculation system will operate daily at the set "Start" and "End" times.</div>

#### ● To Cancel the Recirculation System Operation Timer

- 1) Carry out steps 1 to 2.
- 2) Select "Cancelled" using the  buttons.
- 3) Press the  button.



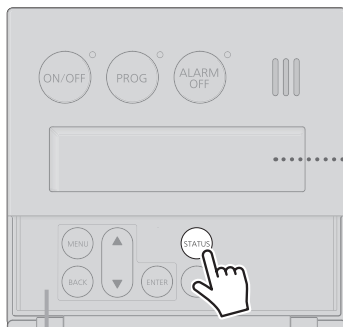
The screen returns to the Recirc Menu.

- \* If the  button is "ON", the screen returns to the home screen in approximately 10 seconds.



## 9. System Check Button





If you press the **STATUS** button, you can check the status of the system



Cover shown in the open position.

(System [ Rcrc ]) Active [ 06 ]  
Units [ 06 ] Pump1 [ OFF ]  
Online [ 06 ] Pump2 [ ON ]

(Display Screen Example [System [Rcrc] ])

System Displayed on the Remote Controller	System Description
System [ Std ]	Water heater only operation.
System [ Rcrc ]	<p>* Water heater and recirculation operation.            * During recirculation operation, hot water is always circulated in the piping to provide instant hot water when a fixture is opened.</p> <p>[If you set the  button to "ON",   is displayed.]</p>
System [ Tank ]	<p>* Water heater combined with a storage tank operation.            * If a recirculation system is also installed, hot water is always circulated in the piping to provide instant hot water when a fixture is opened.</p> <p>[If you set the  button to "ON",   is displayed.]</p>

## 10. Maintenance Monitors and Additional Settings

\* It is necessary to check the flow rate for Recirculation system, and Storage Tank Recirculation system (for adjusting the recirculation flow rate).

- (1) Press Menu Button and press the ▼ Button several times to select "Sys monitor", and then press Enter Button.
- (2) Press the ▼ Button once to select "Yes", and then press Enter Button for five seconds or more.

No	Sys monitor
Yes	now ?
Press/hold	

- (3) Sys monitor is displayed.  
Since item 03 is displayed first, you must press the ▲/▼ Buttons several times until item 14 is displayed.

- (4) Flow rate screen is displayed.

\*The unit of flow rate on the screen can be changed (refer to page 13).

Item No.	
M n t > 1 4	+ 0 0
1 0 4 0	4 0 0 0
2 0 0 0	5 0 0 0
3 0 0 0	6 - - -

<Example of display (°F/gal)>  
Flow rate of unit 1 is 4.0 gal/min  
Flow rate of unit 2 to 5 is 0 gal/min  
Unit 6 is not connected

Unit No.	
M n t > 1 4	+ 0 0
1 1 5 0	4 0 0 0
2 0 0 0	5 0 0 0
3 0 0 0	6 - - -

<Example of display (°C/L)>  
Flow rate of unit 1 is 15.0 L/min  
Flow rate of unit 2 to 5 is 0 L/min  
Unit 6 is not connected

- (5) To display flow rate of Unit 7 - 12.

Press the Enter Button, the > mark changes the position from the left side of item No. to the right side of adding No.

Item No.		Adding No.	
M n t > 1 4	+ 0 0	M n t 1 4 >	+ 0 0
1 0 4 0	4 0 0 0	1 0 4 0	4 0 0 0
2 0 0 0	5 0 0 0	2 0 0 0	5 0 0 0
3 0 0 0	6 - - -	3 0 0 0	6 - - -
Unit No.		Unit No.	

Then, press the ▲ Button, the value of adding No. changes from "+00" to "+06".  
When "+06" is displayed, add six to displayed unit No.

M n t 1 4 >	+ 0 6
1 0 4 0	4 0 0 0
2 0 0 0	5 0 0 0
3 0 0 0	6 - - -

<Example of display (°F/gal)>  
Flow rate of unit 7 is 4.0 gal/min  
Flow rate of unit 8 to 11 is 0 gal/min  
Unit 12 is not connected

Press the ▼ Button, the value of adding No. returns from "+06" to "+00".

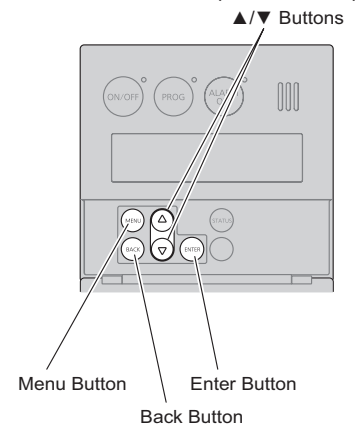
M n t 1 4 >	+ 0 0
1 0 4 0	4 0 0 0
2 0 0 0	5 0 0 0
3 0 0 0	6 - - -

- (6) Press Back Button.

- (7) The screen that asks whether continue or cancel the Sys monitor is displayed.  
Select "cancel" by pressing the ▼ Button to terminate the Sys monitor.

S y s m n t
c o n t i n u e > ▲
c a n c e l > ▼

<Remote controller (RC-9018M)>



## ■ Additional settings of system controller

Following setting can be changed in addition to the system settings.  
When determining whether or not to change a particular setting, please consult with the customer first.

### - Item No. 19

When multiple units are connected to the system controller, two units fire upon startup as the factory default.

However, this setting can be changed so that only one unit fires upon startup.

### - Item No. 1A

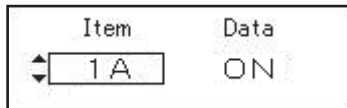
By factory default, the remote controller alarm will sound when a failure of the system controller or any water heater in the system has occurred.

However, this setting can be changed so that the alarm sounds only when the entire system is down.

### ● Setting Procedure (example to change Item No. 1A)

- (1) Turn the water heater off by pressing the Power ON/OFF Button on the remote controller.
- (2) Turn OFF the power supply (disconnect electrical power to all heaters and system controller), then turn ON the power supply (reconnect electrical power to all heaters and system controller) and wait 10 seconds before proceeding to step (3).
- (3) Within the first ten minutes of connecting electrical power, before turning on the Power ON/OFF Button, press the ▲/▼ Buttons on the remote controller and hold until the display blinks "99". If "99" does not blink on the remote controller, disconnect electrical power to all heaters and system controller and try again.
- (4) Use the ▲/▼ Buttons on the remote controller to scroll to the item number "1A" on the column of the item.
- (5) Press the ENTER Button, "Item number" stops blinking and "Data state (OFF or ON)" will start blink.  
Use the ▲/▼ Buttons on the remote controller to change OFF ↔ ON.
- (6) Change "1A" from OFF to ON.

\* Do not adjust any other items!



- (7) When the items has been set correctly, press the ENTER Button, "Data state (ON)" stops blinking and "Item number" will start blink. Confirm the setting by pressing and holding both the ▲/▼ Buttons on the remote controller until the controller emits a beeping noise.  
The new setting will be lost if this is not done.
- (8) Disconnect Power to all heaters and system controller in the multi-unit system.  
Wait 10 seconds or more, and reconnect power.

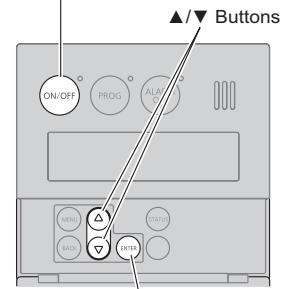
### List of settings

Item #	Data indication	
19	OFF (Two units fire at startup)*	ON (One unit fires at startup)
1A	OFF (Alarm for any system error)*	ON (Alarm only for system down error)

\* Factory Default Settings

### <Remote controller (RC-9018M)>

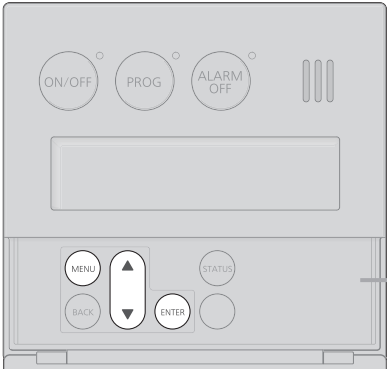
Power ON/OFF Button




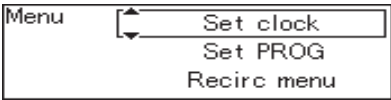





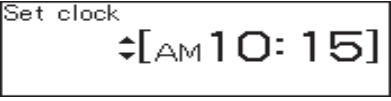
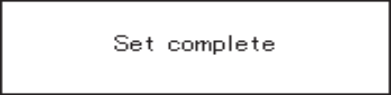


Enter Button

# 11. Additional Remote features

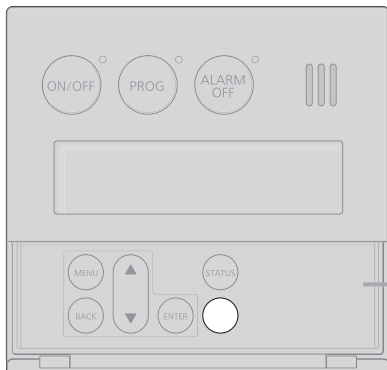
For All Systems Clock Adjustment



Cover shown in the open position.

Operation	Screen Display	Description
<b>1</b> Press the  button inside the cover.		* This adjustment can be made regardless of whether the  button is ON/OFF.
<b>2</b> Press the  button.		
<b>3</b> 1) Use the  buttons to adjust the clock. 2) Press the  button to complete the clock setting.	<div>1)  (Ex: 10:15 am)</div> <div>2) </div> <p>The screen returns to the previous screen.</p>	<div>* The time changes in 1-minute increments with each press of the button, and then in 10-minute increments if the button is kept pressed down.</div> <div>* If the display is left untouched for approximately 20 seconds without pressing the  button, the setting will be completed. When the  button is turned ON, the home screen will be restored.</div>











\* In the event of a power outage or after disconnecting power to the water heater, when power is restored, the clock on the display screen will show " - : - - " and the clock will need to be reset.




Cover shown in the open position.

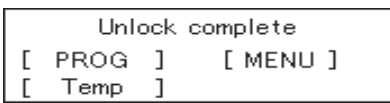


By locking the remote controller, the settings cannot be accidentally changed if a button is pressed by mistake.

Operation	Screen Display	Description
<b>1</b> Press and hold  button for approximately 2 seconds to lock the remote controller.		<ul style="list-style-type: none"> <li>* The operation can be locked regardless if the  button is "ON" or "OFF".</li> <li>* The operations of , , and  buttons are locked.</li> <li>* Approximately 3 seconds after locking the remote controller, the display will return to the previous screen.</li> </ul>
If you press these buttons    while the remote controller is locked, the "Locked" screen will appear.		<ul style="list-style-type: none"> <li>* Approximately 3 seconds after the "locked" screen appears, the display will return to the previous screen.</li> </ul>

#### ● To Unlock the Remote Controller

Press and hold  button for approximately 2 seconds to unlock the remote controller.



\* Approximately 3 seconds after unlocking the remote controller, the display will return to the previous screen.

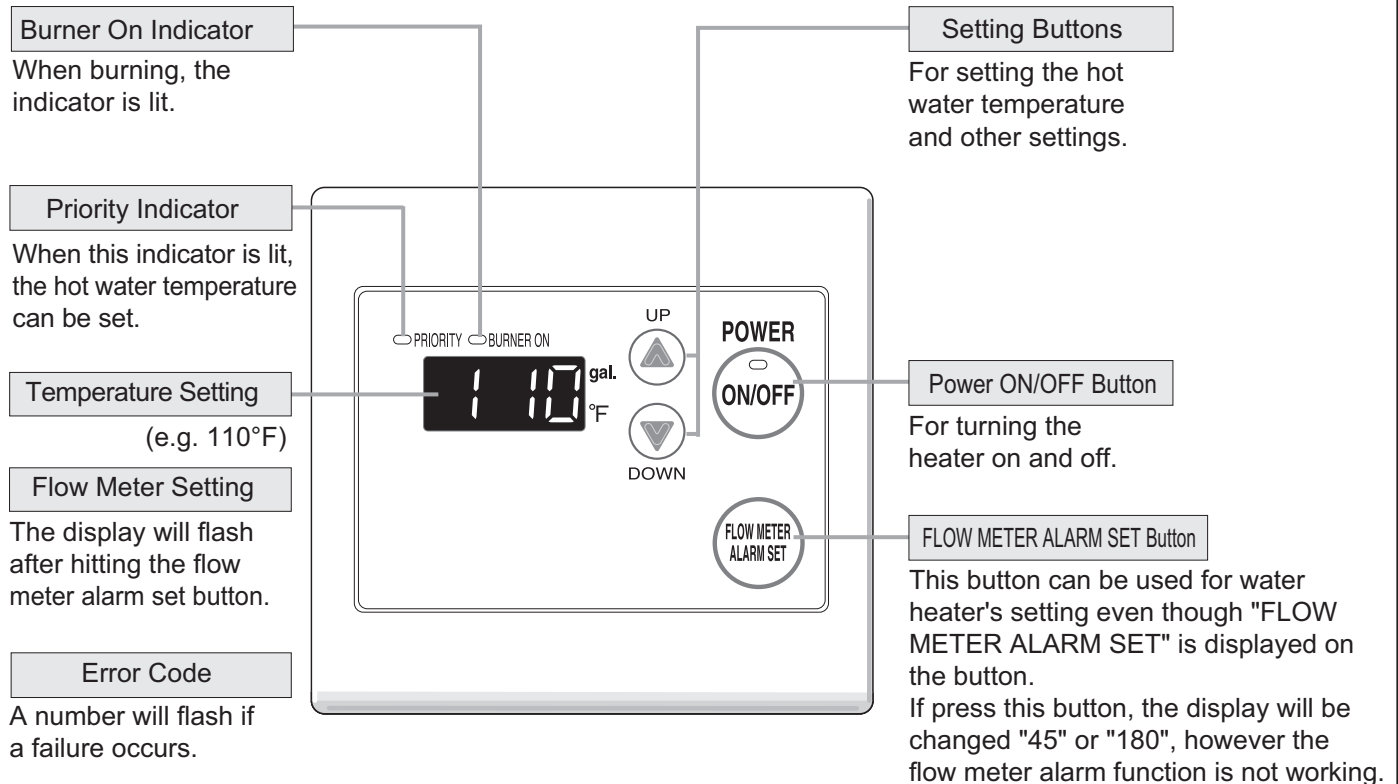
## 12. Remote Controller

### ■ Remote Controller (RC-7649M) with NC380-SV-ASME

- ◆ The remote controller will emit a tone when a button is pressed. This Remote Controller is not resistant to water, steam, chemicals, or UV rays. Install it in a location where it will not be exposed to these conditions. If it must be installed outdoors, use a weatherproof enclosure.
- ◆ Remote Controller (RC-7649M) : The displayed unit is [°F/gal (Fahrenheit/Gallon)].
- ◆ The displayed unit can be changed to [°C/L (Celsius/Liter)]. The factory default unit is [°F/gal]. To change the unit, refer to the page 26.

### Remote Controller (RC-7649M)

What is actually displayed depends on how the water heater is set.



\* Before use, remove the protective sheet from the remote controller surface.

#### Temperature Settings

Fahrenheit[°F]	100	105	110	115	120	125	130	135	140	145	150	160	170	180
Celsius[°C]	38	41	43	46	49	52	54	57	60	63	66	71	77	83

## 13. Remote initial setup

### ■ Remote Controller (RC-7649M) Initial Setting Procedure with NC380-SV-ASME

Note: When using remote controller RC-7649M, change the initial settings in accordance with the following instructions. If the settings are not changed, an error code "730" may appear on the Remote Controller.

#### ● Setting Procedure

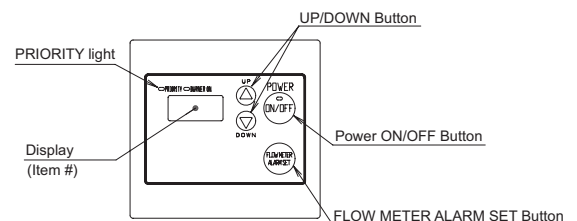
- (1) Turn the water heater off by pressing the Power ON/OFF Button on the remote controller and wait 10 seconds or more.
- (2) Turn OFF the power supply (disconnect electrical power to all heaters and System Controller), then turn ON the power supply (reconnect electrical power to all heaters and System Controller) and wait 10 seconds before proceeding to step (3).
- (3) Press the UP (▲) or DOWN (▼) buttons and then "99" code will blink on the display. The water heater system is on the initial setting procedure.

Note: If you press the Power ON/OFF Button, you can't change the initial setting. If fail to this procedure or "99" code does not blink on the display, disconnect electrical power for all water heaters and system controller. And then try step (1)-(3) again.

- (4) Press the UP (▲) or DOWN (▼) buttons and then scroll to "10", "11" and "1B".  
Change the "10", "11", and "1B" based on following table.  
Press the FLOW METER ALARM SET Button for more than 2 seconds to change the settings.
  - If each code is activated, the "PRIORITY" LED lights up.
  - If each code is deactivated, the "PRIORITY" LED lights off.

CAUTION: Do not change any item other than those listed.

Item #	Standard	Recirculation	Tank Recirculation
10	ON	OFF	ON
11	OFF	ON	ON
1B	ON	ON	ON



- (5) Press and hold the UP (▲) and DOWN (▼) buttons simultaneously for more than 2 seconds to complete the initial setting. Then you will hear a beep from the remote controller.  
Note: If no beep, the initial setting is not completed. In this case try step (1) - (4) again.



## ■ Change System Settings.

Use this procedure if you need to change the system settings after running the " Initial Setting Procedure " (page 22).

### ● Setting Procedure

- (1) Turn the water heater off by pressing the Power ON/OFF Button on the remote controller and wait 10 seconds or more.
- (2) Turn OFF the power supply (disconnect electrical power to all heaters), then turn ON the power supply (reconnect electrical power to all heaters) and wait 10 seconds before proceeding to step (3).
- (3) Press the UP (▲) or DOWN (▼) buttons and then "99" code will blink on the display. The water heater system is on the initial setting procedure.

Note: If you press the Power ON/OFF Button, you can't change the initial setting. If fail to this procedure or "99" code does not blink on the display, disconnect electrical power for all water heaters and system controller. And then try step (1)-(3) again.

- (4) Press the UP (▲) or DOWN (▼) buttons and then scroll to "14", "15" and "16".  
Change the "14", "15", and "16" based on following table.  
Press the FLOW METER ALARM SET button for more than 2 seconds to change the settings.  
- If each code is activated, the "PRIORITY" LED lights up.  
- If each code is deactivated, the "PRIORITY" LED lights off.

CAUTION: Do not change any item other than those listed.

### List of the settings

Item #	Item in the Sys settings	System type			OFF	ON
		Standard	Recirc	Tank recirc		
14	Pump error check	Not Available	Available	Available	System will check for flow when system controller pump terminals are energized. If no flow is present, it will display 63 error code	System will not check for pump operation*
15	Pump rotation	Not Available	Available	Available	Pump 1 and 2 will operate simultaneously*	System will rotate pump 1 and 2 operation
16	125 °F recovery during high-temperature setting	Available	Available	Available	If the Power ON/OFF Button is turned OFF and ON, the unit will accept 125 °F return water (if the unit is set at that temperature or higher)	The unit will allow the standard return temperature*

### \*Factory Default Settings

- (5) Press and hold the UP (▲) and DOWN (▼) buttons simultaneously for more than 2 seconds to complete the initial setting. Then you will hear a beep from the remote controller.

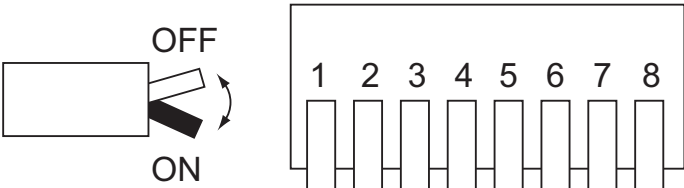
Note: If no beep, the initial setting is not completed. In this case try step (1) - (4) again.

- The system settings of SCU-401 must be the same as SCU-201 when replacing SCU-201 with SCU-401.
- The original system settings of SCU-201 are listed below.

List of the settings (SCU-201)

DIP SW #	Item in the Sys settings	System type			OFF	ON
		Standard	Recirc	Tank recirc		
2	Pump error check	Not Available	Available	Available	System will not check for pump operation	System will check for flow when system controller pump terminals are energized. If no flow is present, it will display 63 error code*
3	Pump rotation	Not Available	Available	Available	System will rotate pump 1 and 2 operation	Pump 1 and 2 will operate simultaneously*
4	125 °F recovery during high-temperature setting	Available	Available	Available	If the Power ON/OFF Button is turned OFF and ON, the unit will accept 125 °F return water (if the unit is set at that temperature or higher)	The unit will allow the standard return temperature*

\*Factory Default Settings



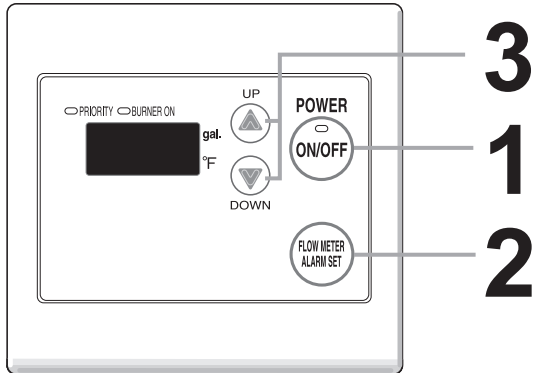
## 14.Additional Remote features

Following setting can be changed in addition to the system settings.

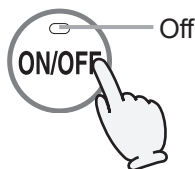
Note: Do not change anything other than following settings.

### How to Use

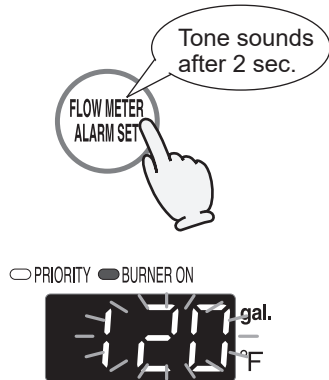
## Adjusting the Maximum Output Temperature



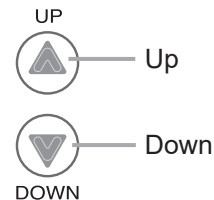
### 1 Turn off the power.



### 2 Press and hold the FLOW METER ALARM SET Button until a sound is heard (2 sec.).



### 3 Change the temperature using the setting buttons.



The upper limit of the hot-water supply temperature can be changed to

(For Fahrenheit (°F))

100 - 150°F (In 5°F intervals)

160°F, 170°F, 180°F.

(For Celsius (°C))

37 - 48°C (In 1°C intervals)

50 - 80°C (In 5°C intervals).

### 4 Set the Power ON/OFF Button to ON when continuing to use the unit as is. Otherwise, let the unit sit for 30 sec.

## Change the way the units of temperature and flow rate are displayed on the screen (standard vs. metric).

When using remote controller RC-7649M, select "[°F/gal] or [°C/L]" as following steps.  
The default setting is "[°F/gal]"

### ■ Procedure for changing from [°F/gal] to [°C/L]

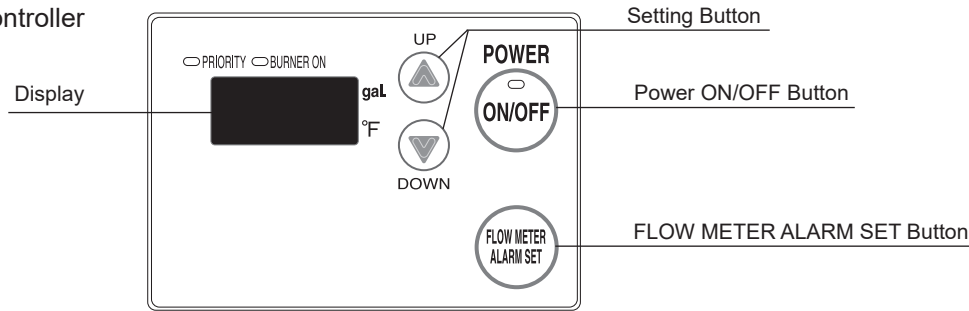
#### Adjusting the Temperature Display

Note: The setting must be done within the first 10 minutes of connecting electrical power to all the water heaters.

Table of Setting Items

Item No.	Item	Defaults Setting	
12	Celsius/Liter or Fahrenheit/Gallon display mode.	°F/gal (Fahrenheit/Gallon)	°C/L (Celsius/Liter)

### ■ Remote Controller



### ■ Setting Procedure

1. Turn the water heater off by pressing the Power ON/OFF Button on the remote controller and wait 10 seconds or more.
2. Disconnect, then reconnect electrical power to all the water heaters.
3. Press the FLOW METER ALARM SET Button and hold it in for 2 seconds or more.
4. Press the FLOW METER ALARM SET Button until the remote controller displays item number "12".
5. Press and hold the UP (▲) button for more than 5 seconds to change the display units to "[°F/gal]".

When set to [°F/gal], the display shows below.



6. Press and hold the DOWN (▼) button for more than 5 seconds to change the display units to "[°C/L]".

When set to [°C/L], the display shows below.



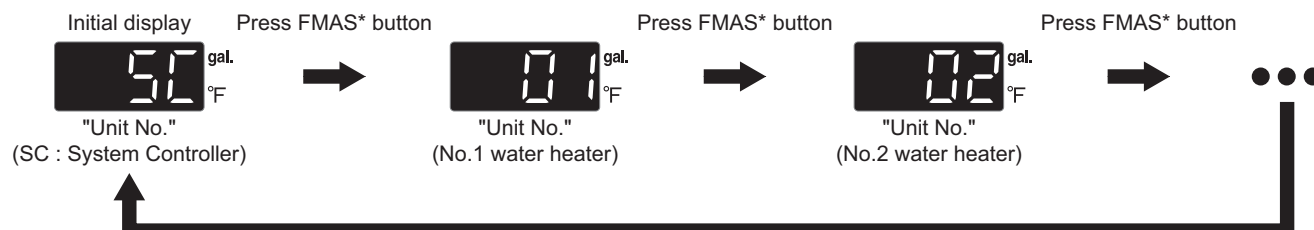
7. To confirm the setting, turn the water heater on by pressing the Power ON/OFF Button on the remote controller.
8. Wait 15 seconds or more.
9. Turn OFF the power supply (disconnect electrical power to all heaters), then turn ON the power supply (reconnect electrical power to all heaters).
10. Adjusting the Maximum Output Temperature (Page 25) and set temperature.

Note: In this case, even though the printed unit on the Remote Controller is [°F/gal], the displayed number on the display means [°C/L] and the water heater will be working under [°C/L].

## Checking Recirculation Flow through Maintenance Monitors

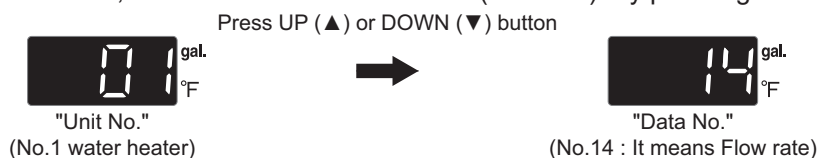
NOTE) For proper recirculation operation, recirculation flow rate (total flow rate) must be verified to be more than 2.5 GPM.

1. Turn the power off by pressing the Power ON/OFF Button.
2. Press and hold the UP (▲) and DOWN (▼) buttons simultaneously for more than 2 seconds.  
Now you are on the Maintenance Monitors mode.  
Initially, a certain number will be displayed on the display, but ignore the number currently.
3. Turn the power on by pressing the Power ON/OFF Button. The power indicator (LED) will be on.
4. Press the FLOW METER ALARM SET Button. The "Unit No." will be changed whenever you press the button.  
After pressing the FLOW METER ALARM SET Button, a certain number will be displayed on the display right away.  
This number shows "Data No.". It is the sensing number via sensing item (e.g. Thermistor, Flow sensor).



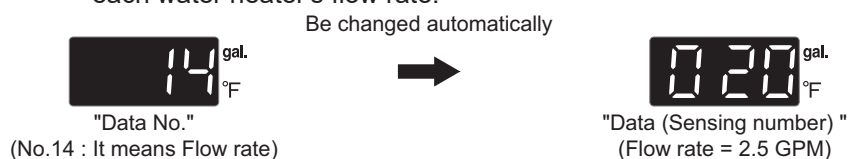
\*FMAS : This means FLOW METER ALARM SET Button

5. In order to check the flow rate for each water heater, set the desired "Unit No." by pressing the FLOW METER ALARM SET Button, and then select "Data No. 14 (flow rate)" by pressing either UP (▲) or DOWN (▼) button.



6. Make sure total recirculation flow\* (Data No.14) 2.0 GPM (7.5 L/min) or more.

\*e.g.) If two water heaters are operating, confirm the flow rate for each water heaters, then calculate the total flow from each water heater's flow rate.



7. Press and hold the UP(▲) and DOWN(▼) buttons simultaneously for more than 2 seconds in order to return to the original mode (original display).

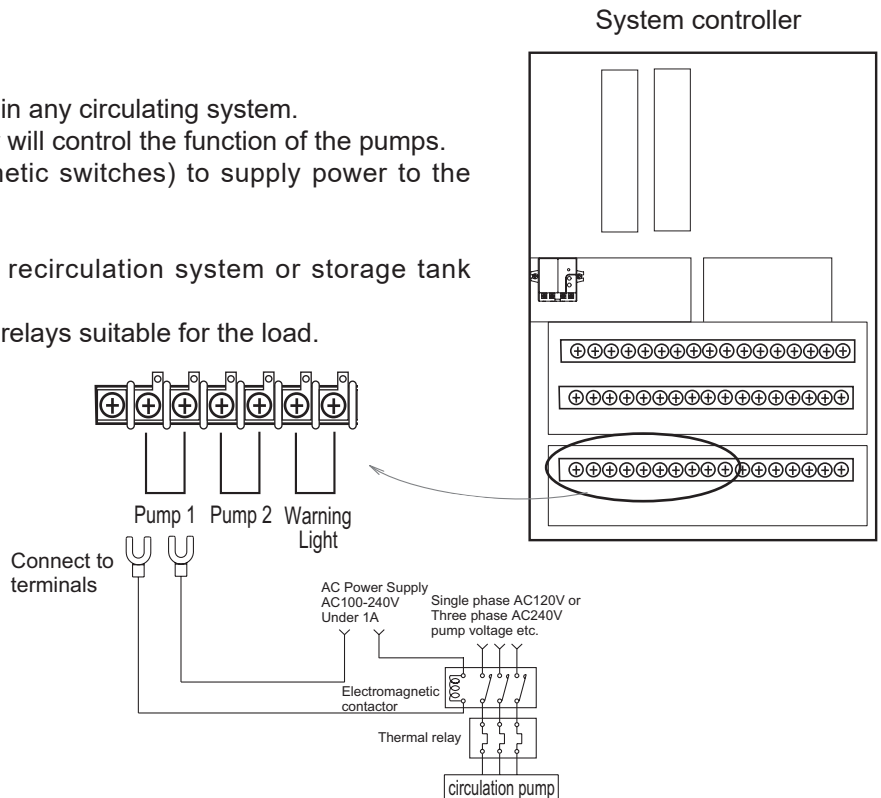
# 15. Additional System Controller Features

## System Controller Terminals (Optional Connections)

### Circulation Pump Terminals 1,2

- Use these terminals to control the pumps in any circulating system. Connected this way, the system controller will control the function of the pumps. Use normally open relays (electromagnetic switches) to supply power to the pumps. Use thermal relays if necessary. Connect them when they are used for recirculation system or storage tank recirculation system.
- Use electromagnetic contactors / thermal relays suitable for the load.

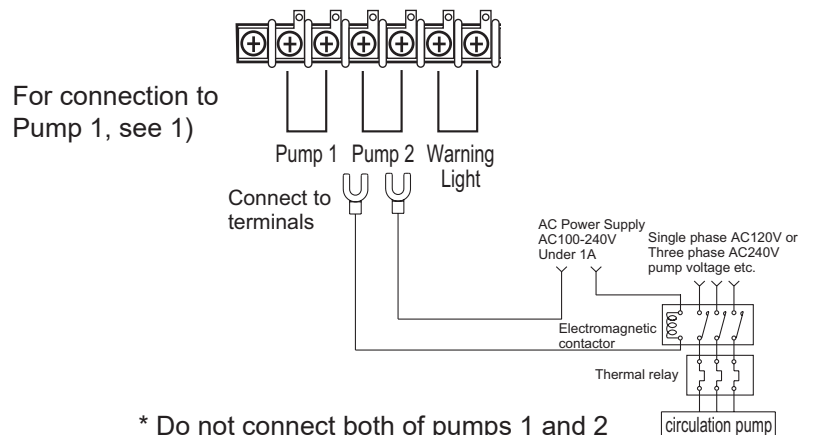
- 1) When operating with 1 circulation pump
- \* If there is only one pump, connect to "Pump 1" terminals.



When you connect one circulation pump, refer to page 10 (with RC-9018M) or page 23 (with RC-7649M).

- 2) When operating with 2 circulation pumps

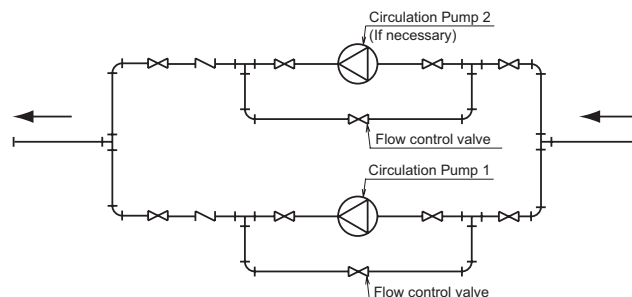
The system controller carries out the alternate operation of "pump 1" and "pump 2" at regular time intervals by connecting two circulation pumps.



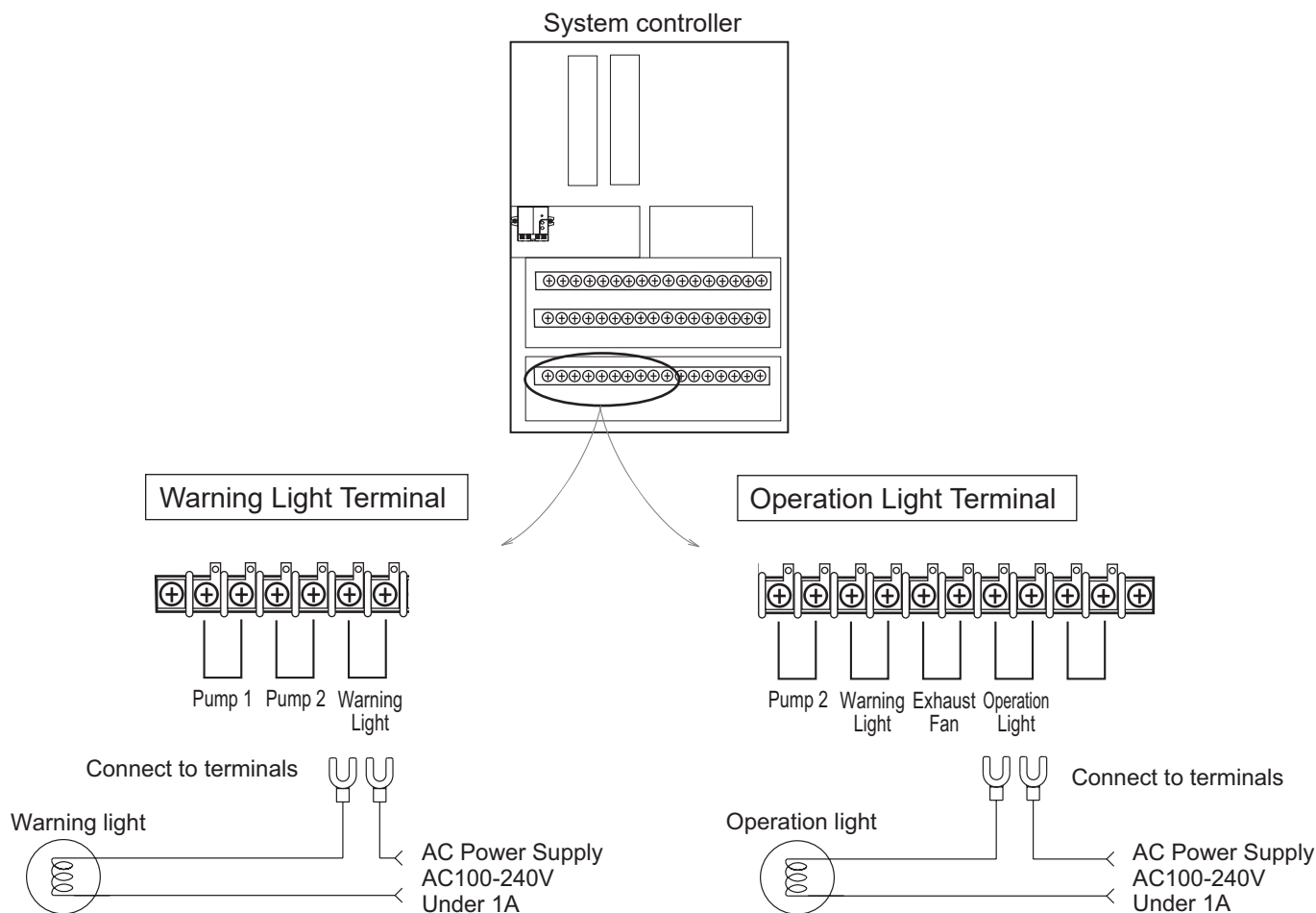
- \* Do not connect both of pumps 1 and 2 to the same terminal blocks.

When you connect two circulation pumps, refer to page 10 (with RC-9018M) or page 23 (with RC-7649M).

- \* Piping diagram for parallel pipe installation



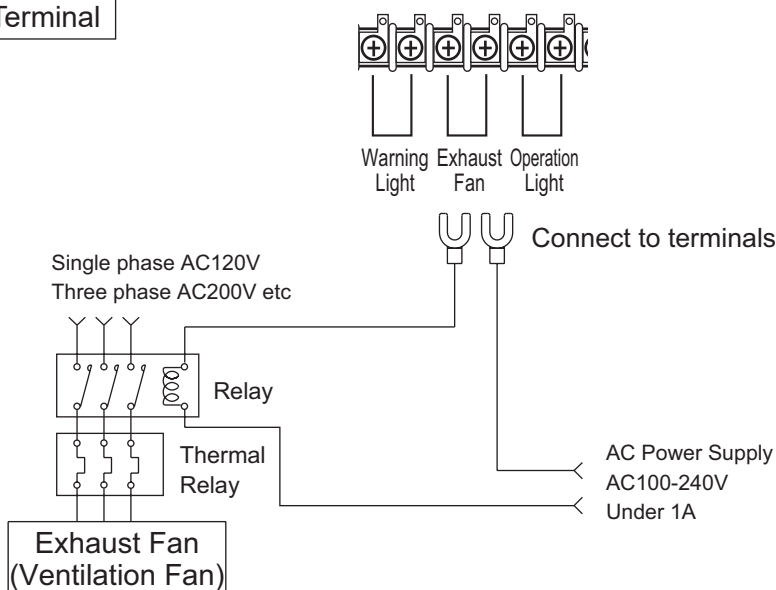
Adjust the pump flow with the flow control valves.  
If multiple pumps are used, control the flow of each pump with separate valves.



- If you make the connections as shown above, the light will turn on when a failure (error code) of any water heater in the system is generated. It will remain lit until the failure has been resolved. If the light turns on, the failure must be resolved after checking the remote controller for error code(s). The light will also turn on if the power supply to the system controller is cut off.

- If you make the connections as shown above, the light will turn on and remain on any time the system is turned on at the remote controller. If the power button is turned off at the remote controller, the light will turn off.

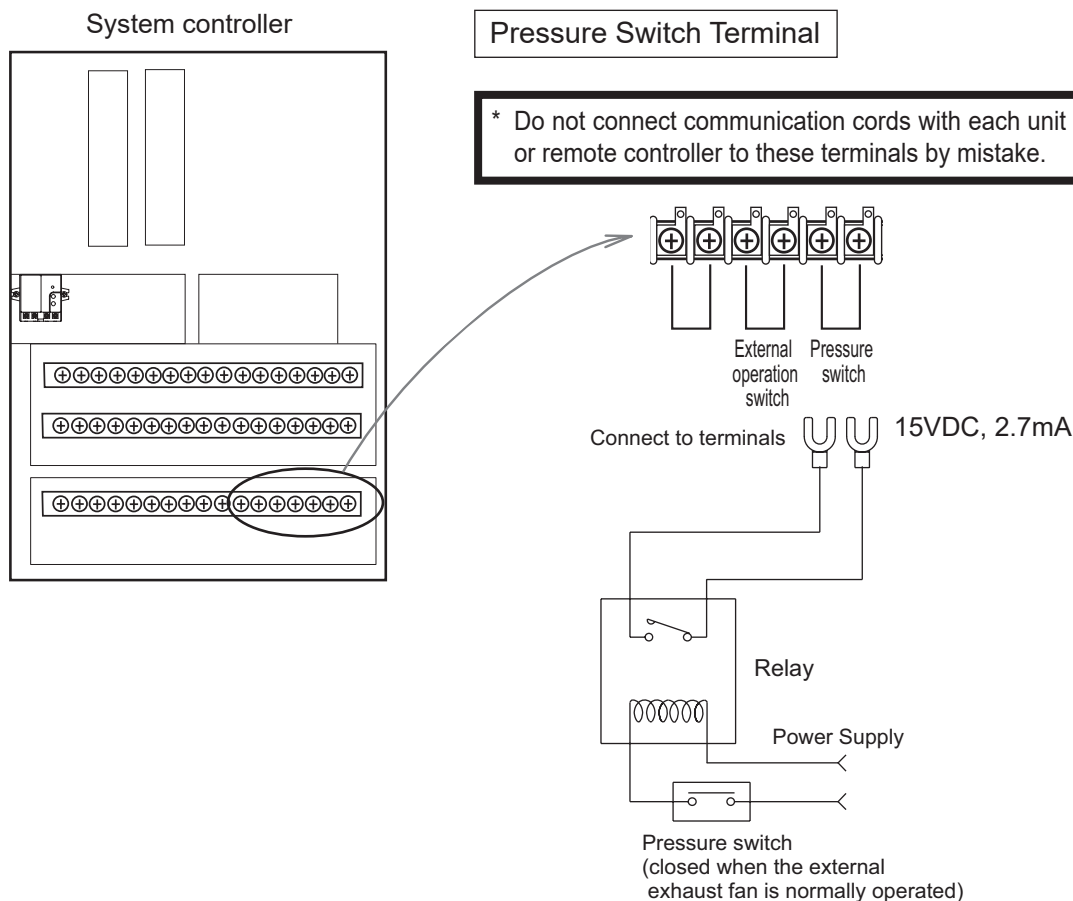
### Exhaust Fan Terminal



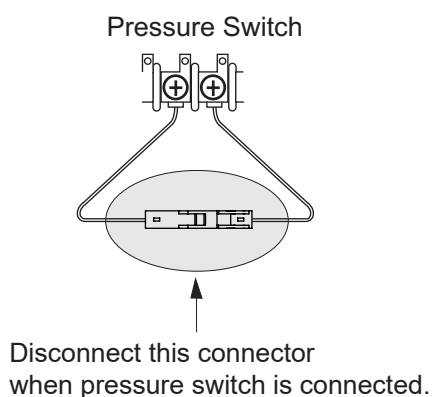
- These terminals will close when any of the units are firing or when the fan on any of the units is blowing. These terminals can be used to control an exhaust fan or damper in this way.
- Use a relay (electromagnetic contactor) to provide power to the fan or damper. Use an additional thermal relay if necessary.
- Use the electromagnetic contactor / thermal relay suitable for the load.



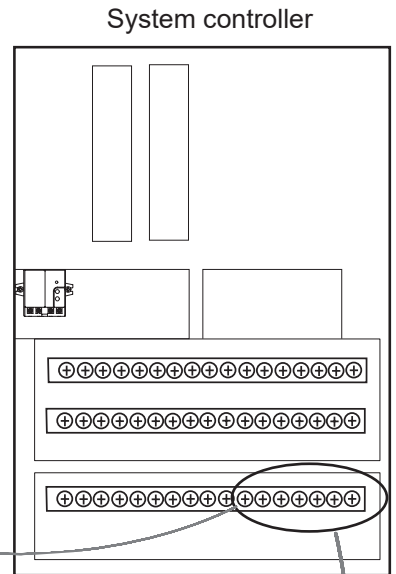
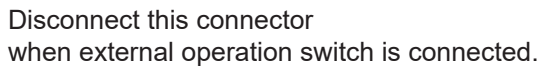
## ■ Connections of Pressure Switch, External Operation Switch, and Thermostat (input terminals)



- A pressure switch or other item can be attached as a safety device when an external exhaust fan that is attached to the exhaust fan terminal above does not operate.
- If the status that a contact of the relay is opened continues, the system stops.
- Use the normally open relay with the contact for low voltage.
- This terminal is short-circuited when the product is shipped from factory. When you use this feature, connect relay, and then disconnect a short-circuit connector as shown below.



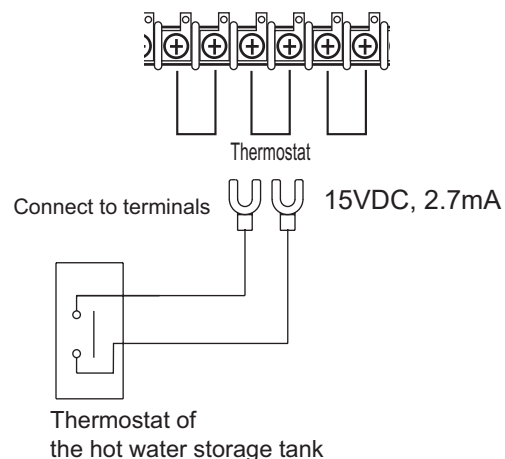
- This terminal is short-circuited when the product is shipped from factory. When you use this feature, disconnect a short-circuit connector as shown below.



- 

- Connect the thermostat of the hot water storage tank.
- If the temperature of the hot water storage tank exceeds the temperature set with the thermostat, the contact in the thermostat is opened and the circulation pump stops.
- A platinum resistance temperature detector cannot be connected directly.
- This terminal is short-circuited when the product is shipped from factory.

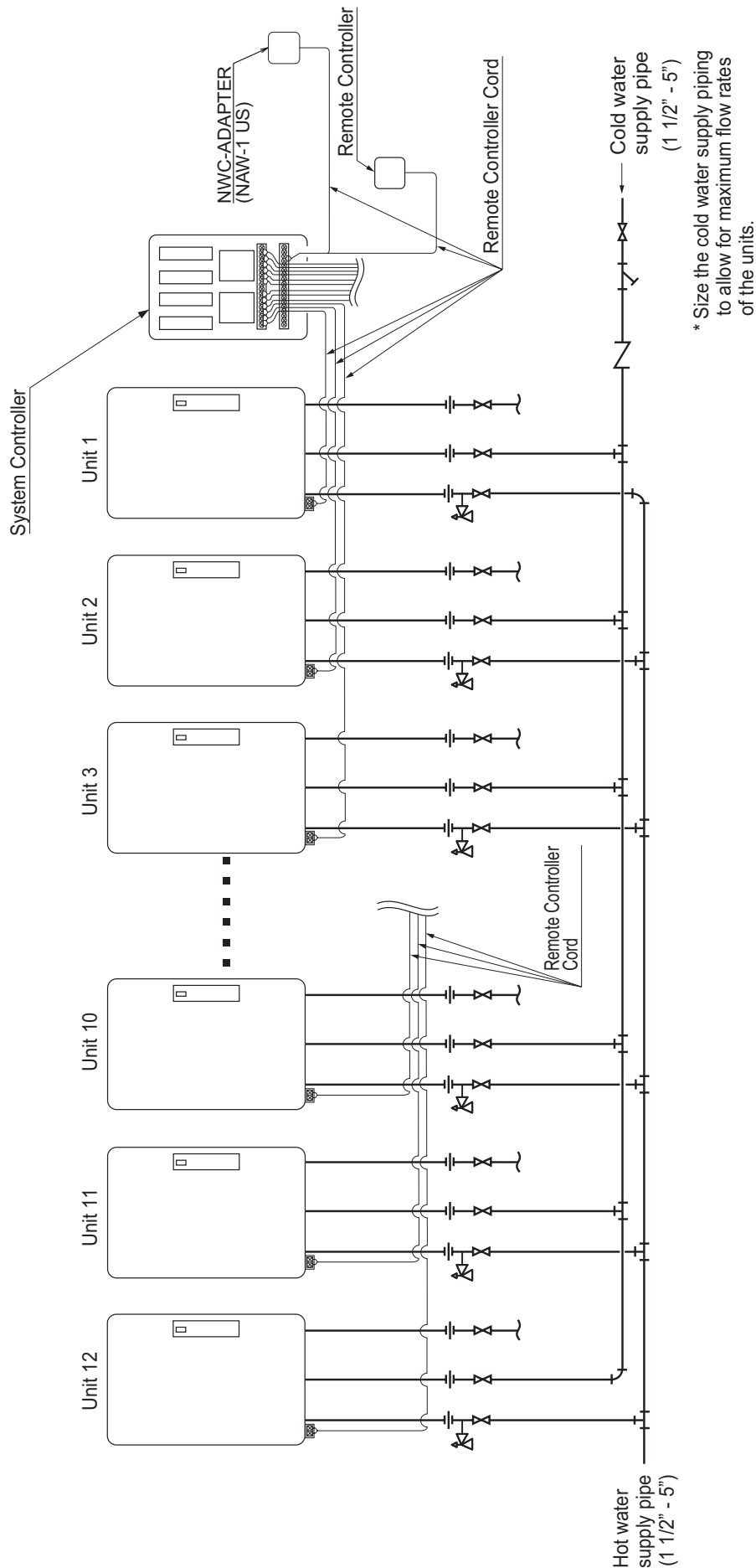
When you use this feature, disconnect a short-circuit connector as shown below.



## 16. System design, Gas, and Water piping

### ■ System diagram (When twelve units are installed)

#### ● Installation without a recirculation system (Standard System)

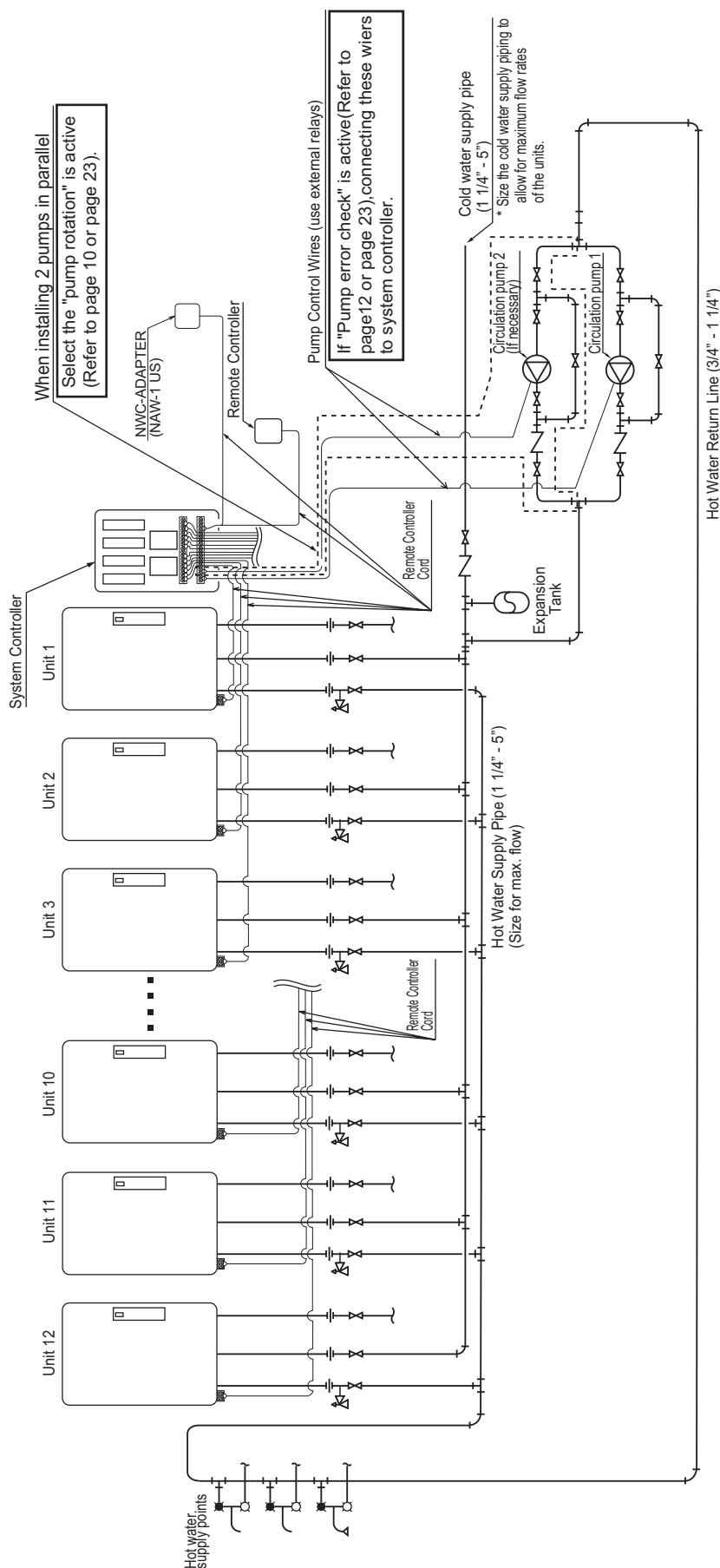


- Insulate or apply heating materials to both the cold water supply piping and the hot water supply piping to prevent freezing during cold weather and to prevent heat loss through the piping.

## ● Example of Recirculation with a Multi-unit System (Recirculation system)

This system will make hot water more quickly available to remote fixtures.

The pump will circulate water through the loop until the entire loop is warm, and then the system controller will turn off the pump until the loop cools down.



\* Size the pump to provide at least 2 GPM @ 10 feet of head + piping losses through the system.

Check the maintenance monitors on the unit to make sure the pump is providing adequate flow.

• Make sure that the flow rate is not greater than 4 ft./sec.

(3/4": 5 GPM, 1 1/4": 13 GPM)

If the flow is too low, the recirculation loop temperature will not be warm enough, if the flow is too high, the lifetime of the unit will be reduced.

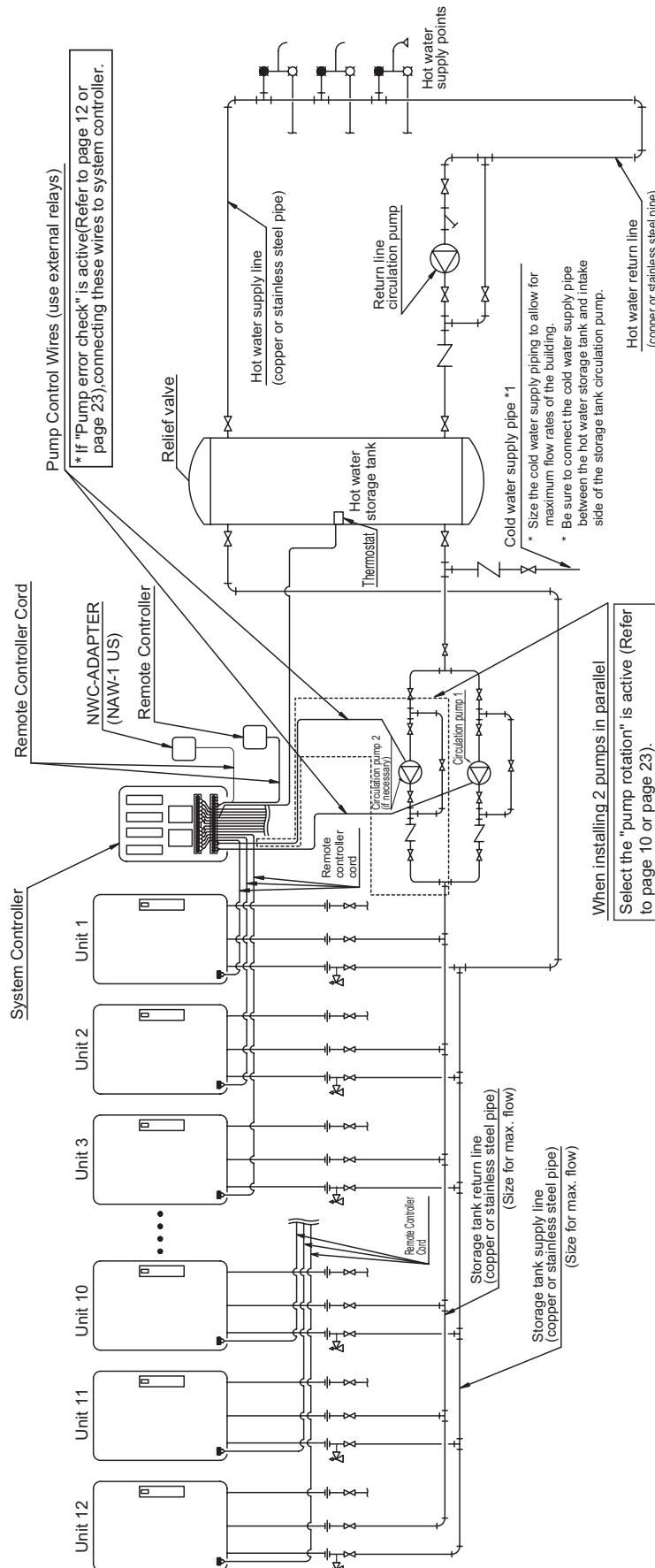
\* If there are multiple circulation loops, try to make the flow rate .75-1.25 GPM in each loop.

\* Use copper or stainless water piping for the entire system.

● Example of Installation with a Storage Tank and Recirculation System (Tank recirculation system)

The pump will push water through the Multi-unit System to heat up the tank.

When the temperature of the thermostat is high, the system controller will turn off the pump until the temperature cools down.



\* For the set temperature of the remote controller, use the temperature (of the thermostat) + about 10°F.

\* To achieve the highest recovery, size the storage tank circulation pump for maximum capacity. (9 GPM (each) @ 40 ft. of head (160°F setting or less) + piping losses through the system.) Verify the supply pressure to the units is at least 30 PSI.

## ■ Gas piping

\* Follow the instructions from the gas supplier.

### ■ Gas connection

- Gas flex lines are not recommended unless they are sized for the maximum input kW (Btu/h • MJ) of each unit.
- Do not use piping with a diameter smaller than the size of the gas inlet to each unit.
- After installation, check the gas line for any leaks before using.

### ■ Gas Valve

Install a gas shutoff valve for every unit installed.

### ■ Gas Meter

Select a gas meter capable of supplying the entire kW (Btu/h • MJ) demand of all gas appliances that the meter serves. Size the gas line for the entire kW (Btu/h • MJ) demand also.

## ■ Water piping

\* Ask a qualified plumber to perform the installation.

\* Observe all applicable codes.

- The plumbing should be installed by a qualified plumbing contractor according to all applicable codes and regulations.
- Insulate or apply heating materials to the supply and hot water piping to prevent freezing during cold weather and to prevent heat loss through the piping.
- Use a union coupling or flexible pipe for connecting the units to ease service and maintenance.
- Refer to the system diagrams for supply and hot water pipe sizing. Do not install piping that is smaller than the inlet or outlet water connections on the units.
- If using an expansion tank, make sure it is correctly sized for the system.
- Use only copper or stainless steel pipe for all plumbing.
- Keep the plumbing as simple as possible.
- Avoid using pipes in which air can accumulate.

\* Use only approved materials, and have the installation inspected upon completion.

## 17. Follow-up Service

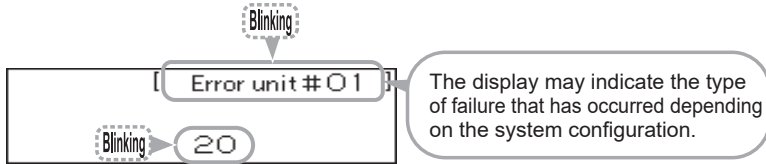
### ■ Checking for Error Conditions

When a failure occurs, information relating to the error blinks on the display.  
The error alarm may also continuously sound.


Note: The combustion lamp will blink if any heater is in error alarm.

[RC-9018M]

- Error Code Display Screen

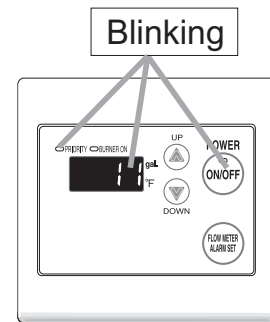


- To Stop the Error Alarm

Press the  button (the indicator will turn off).

[RC-7649M]


- Error Code Display Screen






### ■ Requesting Service

- \* Service and warranty periods are based on the type of product and the application type. Refer to the Limited Warranty provided with the water heater for complete details.
- \* Refer to the "Troubleshooting" section in the Owner's Guide supplied with the water heater. If the problem is not corrected, contact Noritz America Technical Support at 866-766-7489 or visit <http://support.noritz.com/>.

#### Using RC-9018M

- Press the  button to check the status of the system



Operation	Screen Display	Description
<b>1</b> Press the  button inside the cover.	System [ Rorc ] Active [ 04 ] Units [ 06 ] Pump1 [ OFF ] Online [ 04 ] Pump2 [ ON ] <Screen display (Example)>	* Status can be checked regardless of whether the  button is ON/OFF.  * If the  button is pushed or it is left untouched for approximately 10 minutes, it will return to the previous screen.

#### • Identifying units that require service (system dependent).

Press the  button twice inside the cover.

Error unit
1 _ _ _ _ 6 _ _
_ _ _ _ _ _ _ _
_ _ _ _ _ _ _ _

<Screen display (Example)>

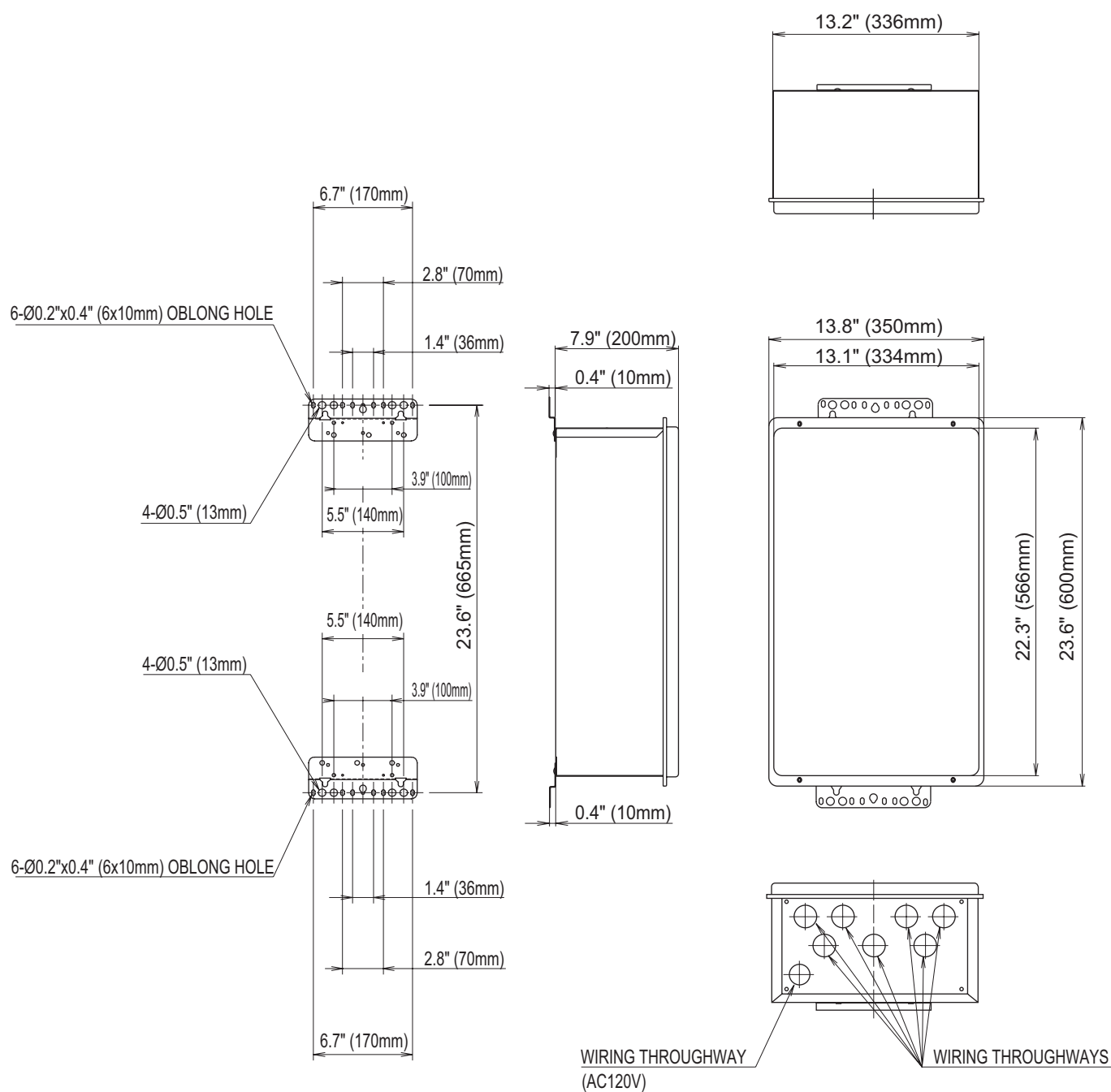
- \* If you press the  button, the screen of step 1 is displayed.
- If you press the  button, the screen returns to the previous screen.

If at any time during the installation and setup of this product you have questions or concerns, contact Noritz America at 866-766-7489 or visit <http://support.noritz.com/>.



## 18. Dimensions

<inch (mm)>



If at any time during the installation and setup of this product you have questions or concerns, contact Noritz America at 866-766-7489 or visit <http://support.noritz.com/>.

# 19. Procedure for replacing Main Controller in the System Controller

## ■ Introduction

This manual is intended to provide instruction for the replacement procedure of the Main Controller in the System Controller (SCU-401).

Refer to the "Procedure for replacing Sub Controller in the System Controller" for Sub Controller(SCU-401).

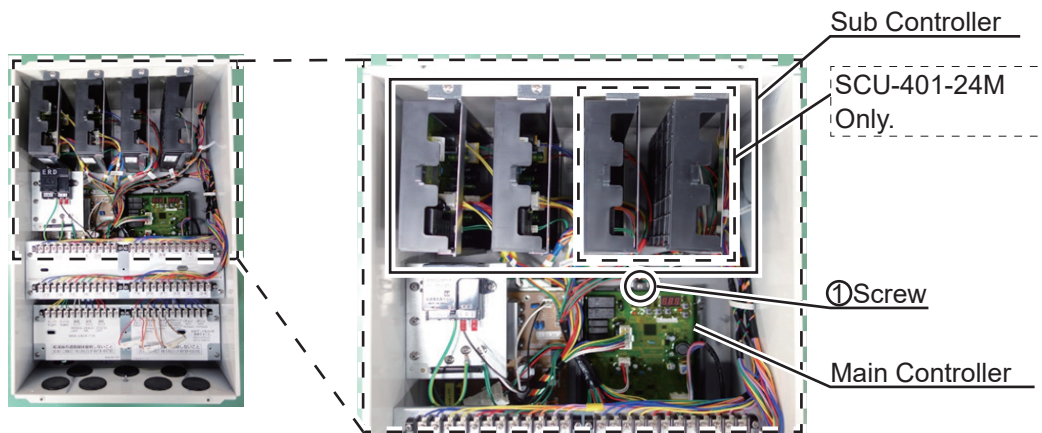


Figure 1: SCU-401-24M

Figure 2: Main Controller and Sub Controller

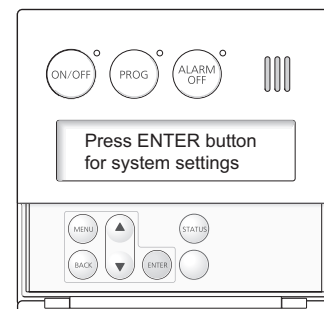


Figure 3: System settings screen

**Before replacing the System Controller, be sure to read this sheet and System Controller Installation Manual for correct operation.**

**Make sure your replacement situation as following (Case 1) or (Case 2):**

**(Case 1) Only the System Controller is replaced.**

**(Case 2) Both the System Controller and Remote Controller (RC-9018M or RC-7649M) are replaced at the same time.**

**(Case 1) When only the System Controller is replaced.**

- 1) Verify if any options (e.g. Warning Light, Operation Light, Circulation Pump, Exhaust Fan) are utilized.  
If in use, disconnect the electric power for all options being used.
- 2) Turn off the Power ON/OFF Button first, then disconnect the electrical power for SCU-401 and all water heaters.
- 3) Replace the Main Controller of System Controller.
  1. Remove the screw (① in Figure 2).
  2. Disconnect all wires from the Main Controller of System Controller.
  3. Install the new Main Controller into the System Controller and reconnect all wires and connectors to the new Main Controller.
  4. Secure the screw (① in Figure 2) again.
- 4) Connect the electric power for SCU-401 and all water heaters, and then turn on the Power ON/OFF Button.
- 5) When using remote controller RC-9018M, refer to step 6) to 9) procedure below.  
When using remote controller RC-7649M, follow instructions on pages 22 - 26.  
Then proceed directly to step 8).
- 6) Wait for approximately 30 seconds, and then set the clock\* of the Remote Controller.
  - \* Refer to page 19 for setting the clock.
  - \* If the system settings screen (Figure 3) is displayed, discontinue this procedure and refer to step 6) to 11) in the (Case 2) procedure below to complete the programming correctly.
- 7) If you want to set the recirculation system operation timer, refer to pages 14 - 15.
  - \* This timer is only available for the recirculation system.
- 8) Reconnect any options (e.g. Warning Light, Operation Light, Circulation Pump, Exhaust Fan) disconnected from step 1).
- 9) The replacement is complete.

**(Case 2) When System Controller and Remote Controller (RC-9018M or RC-7649M) are replaced at the same time**

- 1) Verify if any options (e.g. Warning Light, Operation Light, Circulation Pump, Exhaust Fan) are utilized.  
If in use, disconnect the electric power for all options being used.
- 2) Turn off the Power ON/OFF Button first, then disconnect the electrical power for SCU-401 and all water heaters.
- 3) Replace the Main Controller of System Controller and the Remote Controller (RC-9018M or RC-7649M).
  1. Remove the screw (① in Figure 2).
  2. Disconnect all wires from the Main Controller of System Controller.
  3. Install the new Main Controller into the System Controller and reconnect all wires and connectors to the new Main Controller.
  4. Secure the screw (① in Figure 2) again.
5. Replace the Remote Controller.
- 4) Connect the electric power for SCU-401 and all water heaters, and then turn on the Power ON/OFF Button.

- 5) When using Remote Controller RC-9018M, refer to step 6) to 11) procedure below.  
When using Remote Controller RC-7649M, follow instructions on pages 22 - 26.  
Then proceed directly to step 10).
- 6) In approximately 10 seconds, the system settings screen (Figure 3) is displayed on the Remote Controller.  
Set up initial setting in accordance with the screen.  
\* Refer to page 10 - 11 for some parameter settings.
- 7) If necessary, set the miscellaneous system selection.  
\*Refer to pages 11 - 13 and 18.
- 8) Set the clock\* of the remote controller.  
\*Refer to page 19 for setting the clock.
- 9) If you want to set the recirculation system operation timer, refer to pages 14 - 15.  
\* This timer is only available for the recirculation system.
- 10) Reconnect any options  
(e.g. Warning Light, Operation Light, Circulation Pump, Exhaust Fan) disconnected from step 1).
- 11) The replacement is complete.

## 20. Procedure for replacing Sub Controller in the System Controller

### ■ Introduction

This manual is intended to provide instruction for the replacement procedure of the Sub Controller in the System Controller (SCU-401).

Refer to the "Procedure for replacing Main Controller in the System Controller" for Main Controller(SCU-401).

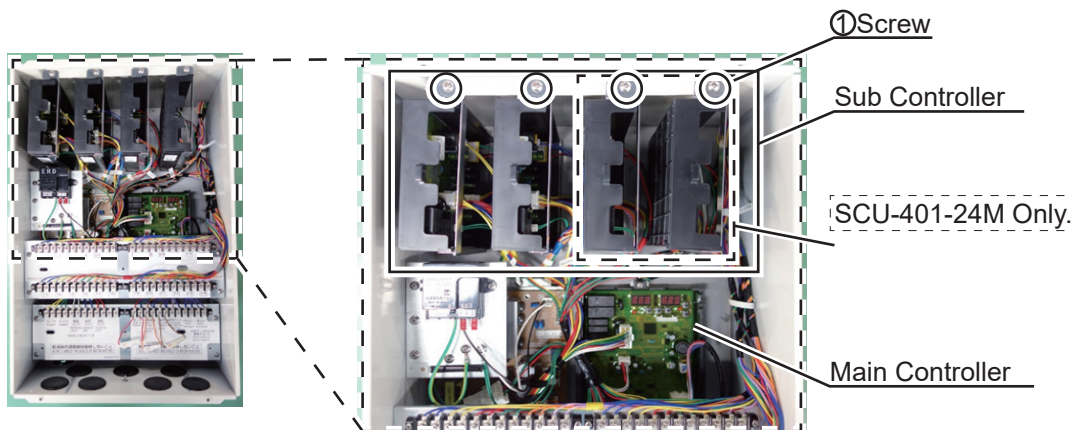


Figure 1: SCU-401-24M      Figure 2: Main Controller and Sub Controller

**Before replacing the System Controller, be sure to read this sheet and System Controller Installation Manual for correct operation.**

- 1) Verify if any options (e.g. Warning Light, Operation Light, Circulation Pump, Exhaust Fan) are utilized.  
If in use, disconnect the electric power for all options being used.
- 2) Turn off the Power ON/OFF Button first, then disconnect the electrical power for SCU-401 and all water heaters.
- 3) Replace the Sub Controller of System Controller.
  1. Remove the screw (① in Figure 2).
  2. Disconnect all wires from the Sub Controller of System Controller.
  3. Install the new Sub Controller into the System Controller and reconnect all wires and connectors to the new Sub Controller.
  4. Secure the screw (① in Figure 2) again.
- 4) Connect the electric power for SCU-401 and all water heaters, and then turn on the Power ON/OFF Button.
- 5) Reconnect any options  
(e.g. Warning Light, Operation Light, Circulation Pump, Exhaust Fan) disconnected from step 1).
- 6) The replacement is complete.