Wireless Adapter
NWC-ADAPTER (NAW-1 US)

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

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.

🚫 Prohibited   ⊟ 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 heater 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 and Owner's Guide to the customer.
- In order to register the heater warranty, the owner needs installer information. Fill in the necessary information to the Owner's Guide.
- When you tighten the screws on the wire connection terminal, do not use electric drills, impact drivers and so forth. Tightening with excessive force may cause the terminals to be damaged and lead to failures.
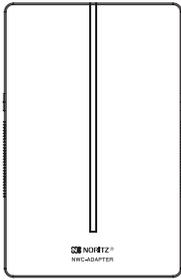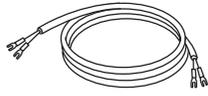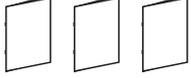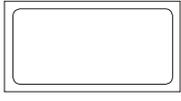
Contents

If at any time during the installation and setup of this product you have questions or concerns, contact Noritz America Technical Support at 1-866-766-7489 or visit http://support.noritz.com/.

SHC804Z
Rev. 05/17

SHC804Z

1. Included Accessories

The following accessories are included with this product. Check for any missing items before starting installation.

Part	Shape	Q'ty	Remarks	Part	Shape	Q'ty	Remarks
NWC-ADAPTER (NAW-1 US)		1		Wire Clamp		1	For clamping Remote Cord
Anchoring Screw (for wall mounting)		3		Remote Cord 6ft (1.8m)		1	
Drywall Anchor		3		Owner's Guide, Quick Guide, Installation Manual (this document)		1 each	
Screw		1	For Wire Clamp	Product Infomation Sticker		1	Spare sticker

Remote cord maximum length (refer to "3. Wiring Diagram, System Diagram")

The remote cord can be extended up to 150ft (45m) with 18AWG wire.

Recommend to use a remote cord with an outer diameter between φ0.236" (6.0mm) and φ0.276" (7.0mm) for the wire clamp, otherwise the cord cannot be clamped to this product with the wire clamp.

| Accessories / Units	NWC-ADAPTER (NAW-1 US)	Remote Controller
Heater, Boiler	150ft (45m) or less	300ft (90m) or less
System Controller	150ft (45m) or less	300ft (90m) or less

2. Introduction

■ How to open the front cover

When setting up this product, it is necessary to open the front cover.
To open the front cover, grab the ribbed stoppers on each side of it and slide the cover up, then pull off the front cover.

Front   Side

Stopper

■ General Parts

Front

Inside the Front Cover

Inside

Plastic Cover
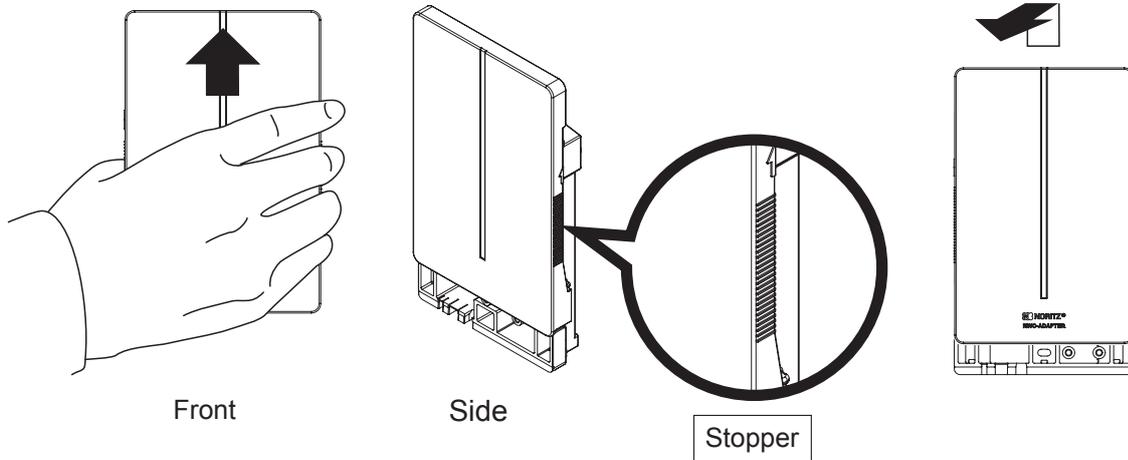
① Status LED (RED)   ⑥ RESET Button
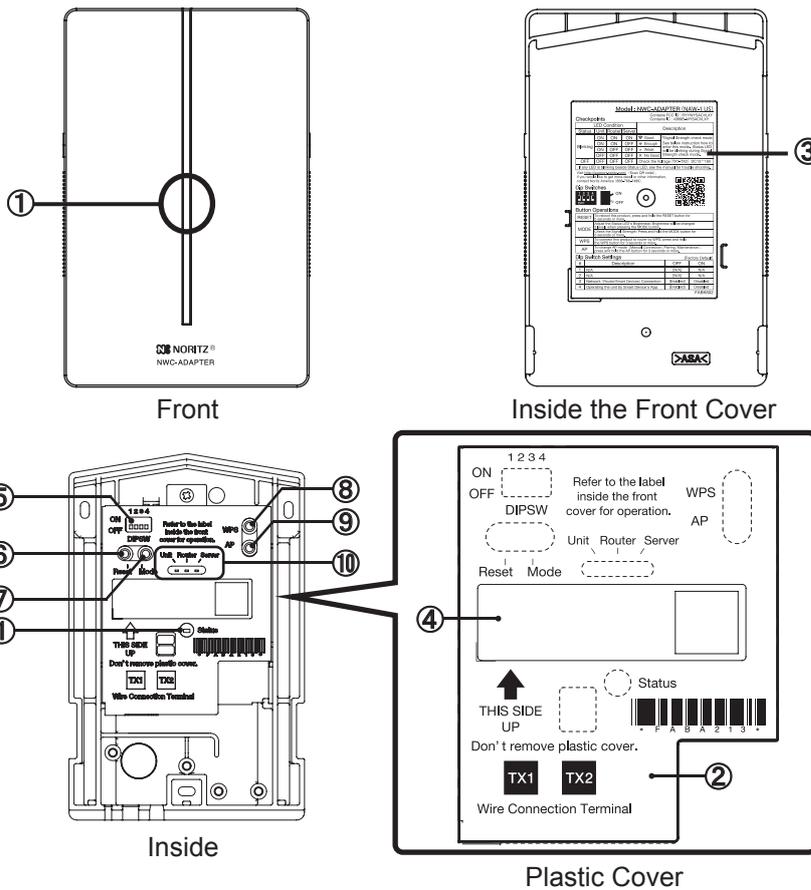
② Plastic Cover   ⑦ MODE Button

③ Instruction Sheet   ⑧ WPS Button

④ Product Information Sticker ⑨ AP Button

⑤ Dip Switches   ⑩ Unit, Router, Server LED

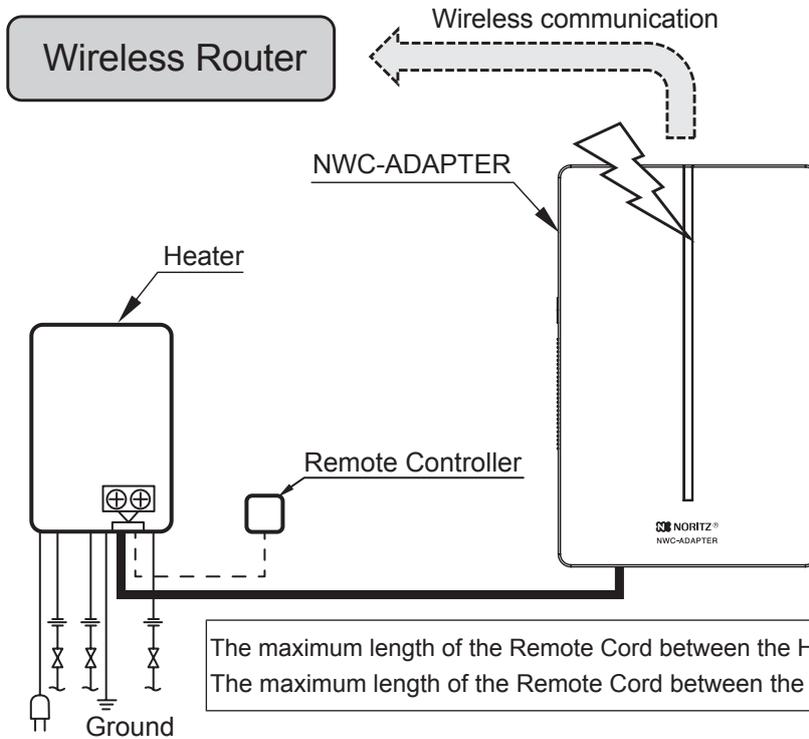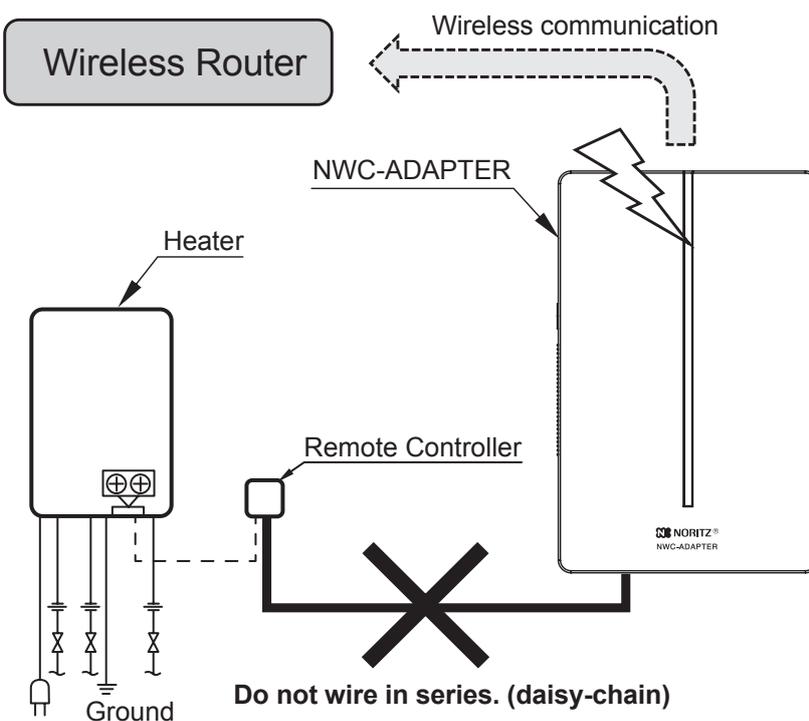# 3. Wiring Diagram, System Diagram

■System Requirements

- The remote controller must be installed when owner uses NWC-ADAPTER.
- NWC-ADAPTER cannot install/use for Quick Connect System.

1. Heater and NWC-ADAPTER

[Correct connection]

Wireless communication

Wireless Router

NWC-ADAPTER

Heater

Remote Controller

NORITZ®
NWC-ADAPTER

Ground

The maximum length of the Remote Cord between the Heater and Remote Controller is 300ft (90m).
The maximum length of the Remote Cord between the Heater and NWC-ADAPTER is 150ft (45m).

[Incorrect connection]

Wireless communication

Wireless Router

NWC-ADAPTER

Heater

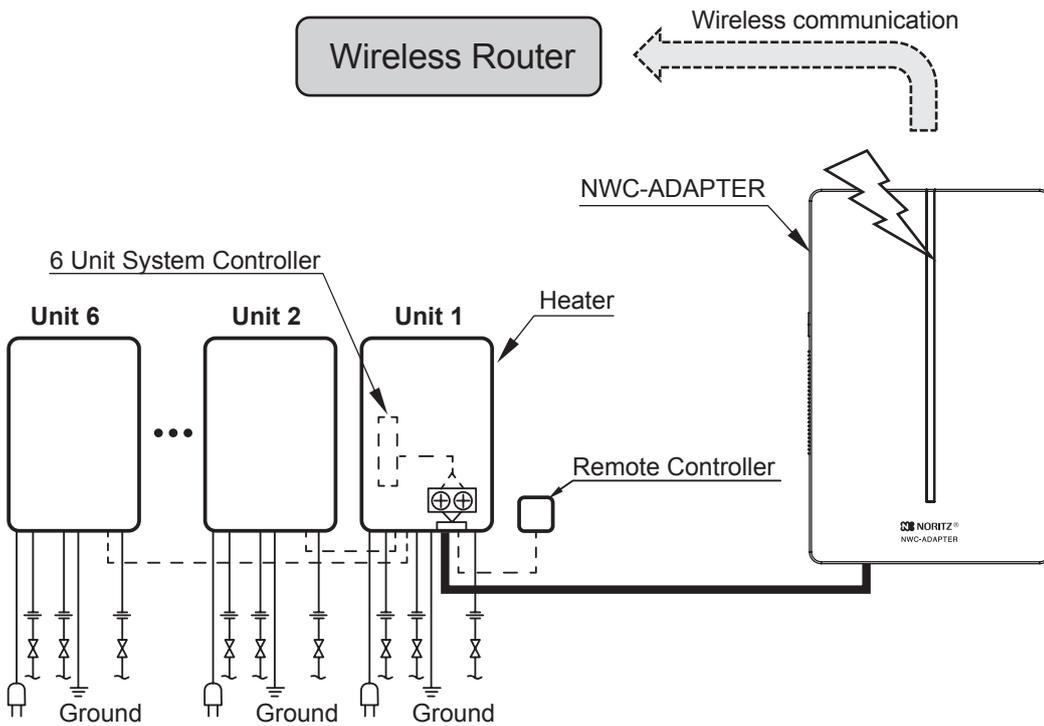Remote Controller

NORITZ®
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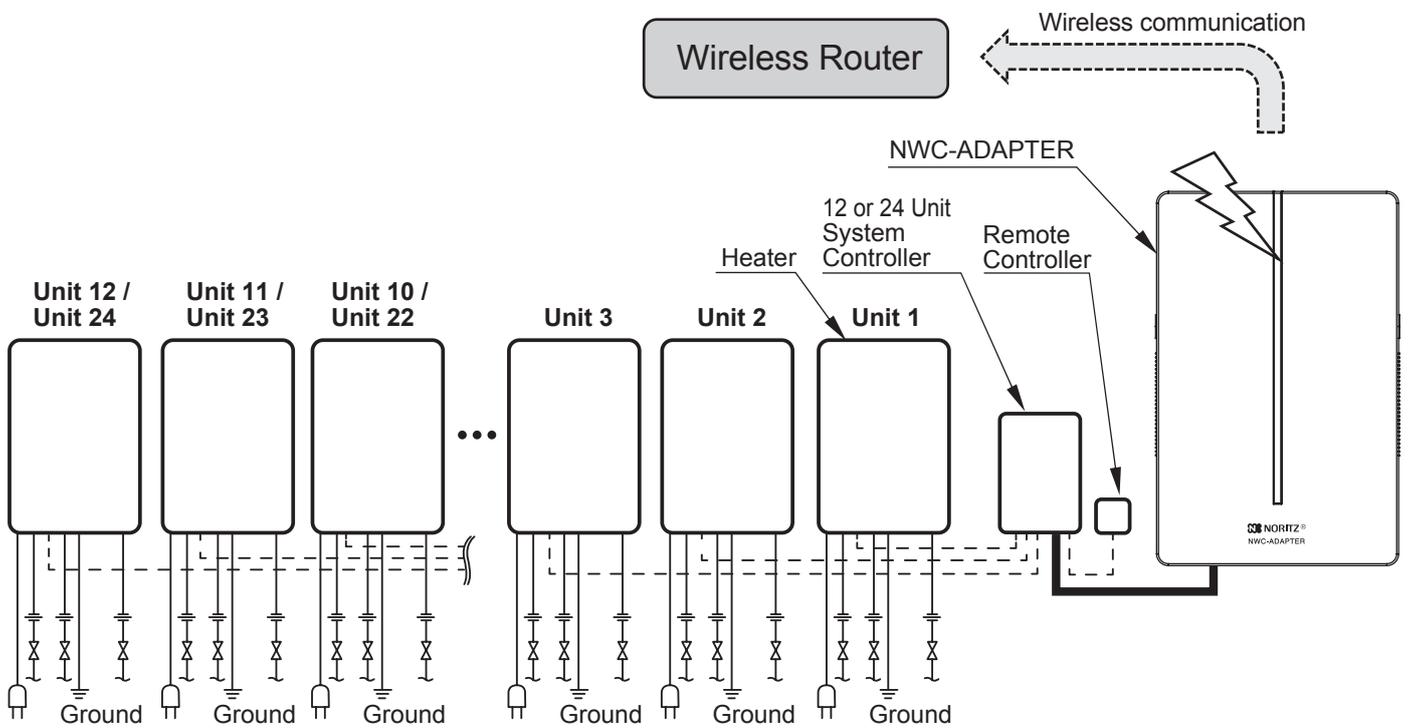Ground

Do not wire in series. (daisy-chain)

Do not wire in series. (daisy-chain)
Be sure to connect the heater to the remote controller and NWC-ADAPTER separately with remote cords.

2. Heater, 6 Unit System Controller and NWC-ADAPTER

Wireless communication

Wireless Router

NWC-ADAPTER

6 Unit System Controller

Unit 6 **Unit 2** **Unit 1**

Heater

Remote Controller

NORITZ®
NWC-ADAPTER

Ground Ground Ground

The maximum length of the Remote Cord between the Heater and Remote Controller is 300ft (90m).
The maximum length of the Remote Cord between the Heater and NWC-ADAPTER is 150ft (45m).

3. Heater, 12 or 24 Unit System Controller and NWC-ADAPTER

Wireless communication

Wireless Router

NWC-ADAPTER

12 or 24 Unit System Controller

Heater Remote Controller

Unit 12 / **Unit 11 /** **Unit 10 /**
Unit 24   **Unit 23**   **Unit 22**   **Unit 3** **Unit 2** **Unit 1**

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NWC-ADAPTER

Ground Ground Ground Ground Ground Ground

The maximum length of the Remote Cord between the System Controller and Remote Controller is 300ft (90m).
The maximum length of the Remote Cord between the System Controller and NWC-ADAPTER is 150ft (45m).

4. Choosing Installation Site

This product needs to be installed in a place where it can connect to the wireless router.
If the wireless router is already installed, refer to the "Recommended installation conditions" below, choose an installation location, and then follow the directions under "Checking the installation location's signal conditions". Then, check that this product can communicate with the wireless router from your chosen installation location.
If the wireless router is not installed, confirm the location that the wireless router is to be set up, and then install this product in a place that meets as many of the "Recommended installation conditions" as possible.

\<Recommended installation conditions\>

1. In a place where the wireless router (or wireless range extender) can be seen from this product installation location.
2. Install this product in a place absent of any obstructing structural members such as metal panels (including insulating aluminum sheet), between this product and wireless router.
3. Install this product so that it is closer to the wireless router than to the heater.
4. Avoid buildings that have metal structural members (including steel reinforced concrete).
5. Install in a place free of a strong magnetic field, static electricity, and signal interference (avoid a location close to a microwave oven, for example).
6. Install this product and wireless router on the same floor.
7. Do not enclose this product.
8. Install this product in a place more than 3.28ft (1m) height above the floor.

  * When installing in a location with an unstable signal environment, move this product and wireless router closer together or install a wireless range extender between this product and wireless router. On how to connect the wireless range extender, refer to the user's manual of it.

  * This product's wireless channels are from 1 to 11. Set the wireless router wireless channel to automatically select a channel or set it to one of the 11 channels. This product will not work when the wireless channel is fixed to channel 12 or 13.

■ Checking the installation location's signal conditions

If the wireless router is already installed, check the signal condition where this product is to be set up, by the signal strength level with a smartphone or tablet device. Check the signal strength level is more than stable "2" (recommended level is more than "3"), with the smartphone or tablet device. If you do not have a smartphone or tablet device ask the owner to check the signal strength level. Since this product will be installed on a wall, placing a smartphone or tablet device close to the wall and check the signal strength level.
* The way to connect this product to the network(is outside of installation) is explained in the Owner's Guide.

Wireless LAN
📶 Wireless router A
📶 Wireless router B
📶 Wireless router C
📶 Wireless router D
📶 Wireless router E

The screen display is an example.
The display may vary depending on the type of smartphone or tablet device.

Check the Signal Strength Level
In the left figure, the wireless router A, B, C, or E is optimal.
The wireless router D is not optimal, change the location of the wireless router or this product, or install the wireless range extender, to improve signal conditions.

5. Installation

⚠ WARNING

- Use included accessory or Noritz specified parts for the installation.
- Do not install this product in a high-moisture or an oily smoky place, or in which exposed it to steam and cold air directly. Failure to do so may result in short circuits, electrical shock, and burnout.
- Do not install in a place at risk of flammable gas leaks. Leaked gas may linger in the vicinity of this product and ignite a fire.
- Do not disassemble or modify this product. Failure to do so may result in electric shock, injury, fire, or malfunctions.

⚠ CAUTION

- Do not wire the remote cord in parallel with power lines and other devices wire.
  Failure to do so may result in malfunctions.
- Do not install close to electronic devices with precision control or weak signal. Failure to do so may result in malfunctions.
- In case of installation to a medical institution such as a hospital, follow its instructions. Radio interference can affect the operation of medical equipment and cause accidents.
- This product can be connected only to compatible Noritz heaters and system controllers. Connecting to an incompatible unit may result in operating malfunctions. Be sure to check the unit is compatible with this product.
- Avoid outdoor installation, or installation in an indoor location where it will be exposed to direct sunlight.
- Avoid installing in locations directly exposed to rain.
- Avoid installing in a place where water or steam can come into contact with the controller.
- Do not install in a location with significant corrosive gas, extreme vibrations, soot and smoke, or dust.
- Install in a location with an ambient temperature range from 14°F (-10°C) to 122°F (50°C).
- Install in a location with relative humidity less than 90% and free of condensation.
- Avoid installing locations special chemical agents (e.g., benzene, fatty and oily deter gents) are used.
- Do not apply paint or detergents to this product.
- Do not attach this product directly to the heater body.
- Install this product in a location at least 9.84ft (3m) distant from televisions, radios, computers, microwave ovens, and the antennas or antenna lines of transceiver.
- This product operates in the unlicensed ISM band at 2.4GHz. In case this product is used around the other wireless devices which operate in same frequency band of this product, there is a possibility that interference occurs between this product and such other devices. If such interference occurs, please stop the operation of other devices or relocate this product.

■ Installation Clearance

Maintain the following clearances.

6.4" (162.6mm)

1.57" (40mm)

11.46" (291mm)

0.79" (20mm)

0.79" (20mm)

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NWC-ADAPTER

2.36" (60mm)
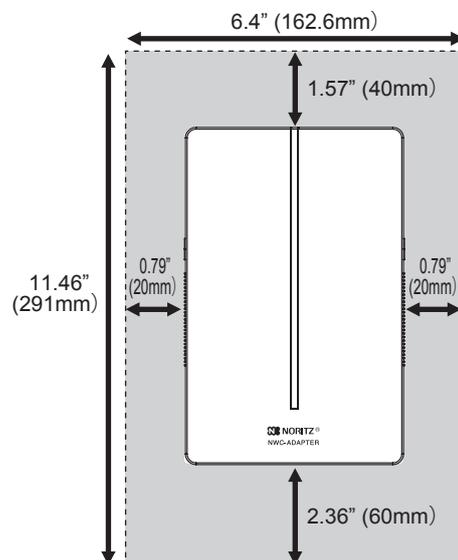
Open the front cover, pay attention to the vertical direction of this product, determine and mark the positions for the three screws (two for the top and one for the bottom).

■ Mounting to the wall

1. Drill holes for three screws.
   If using drywall anchors, drill three holes with a diameter of 0.236" (6 mm) and a depth of 0.98" to 1.18" (25 mm to 30 mm) and insert the anchors.

2. Tighten the screws.

3. Take waterproof measures as necessary to prevent water from entering from the screws.

4. The gap between anchor and wall will cause water invasion.
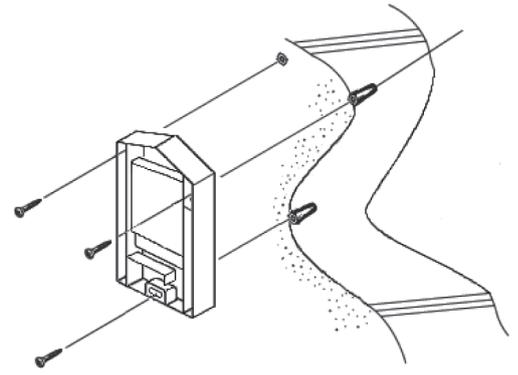
■ Wiring in the wall   ⊘ **Prohibited:** For outdoor installation, this wiring is not permitted.

Drill a 0.315" (8mm) hole from the back of this product.
Aim at mark on the center of the "+" on back of this product.

Position of the hole for wirig the remote cord.

Make a hole with 0.315" diameter drill.
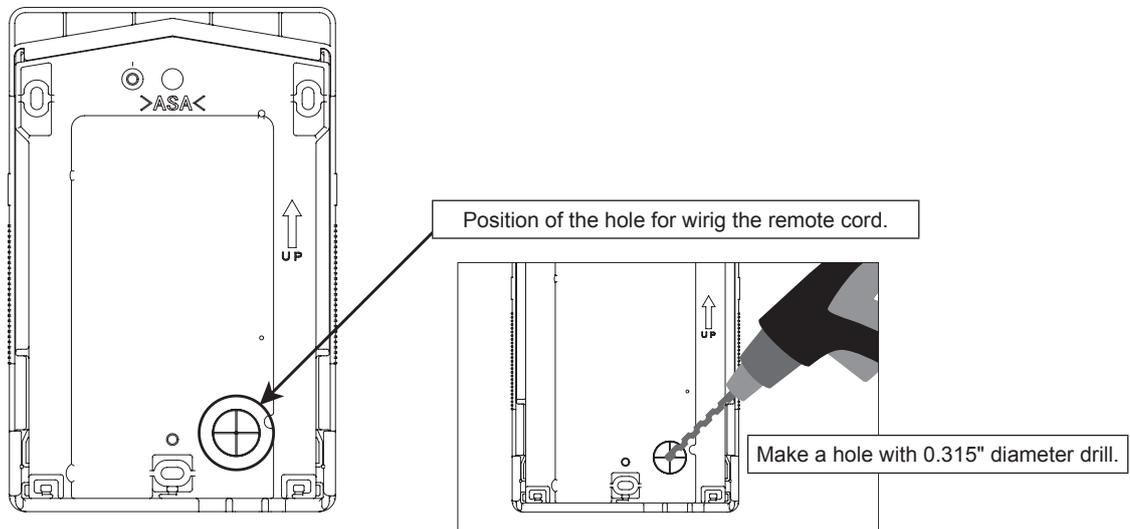
⚠ Caution: To prevent damaging the remote cord, remove any burrs from around the hole.

Make a φ1.1" (28mm) or less hole to the wall, align this product with the hole, and then fix this product into place.

Make a φ1.1" (28mm) or less hole to the wall.

Connect the remote cord to the wire terminal block of the unit.

Remote cord
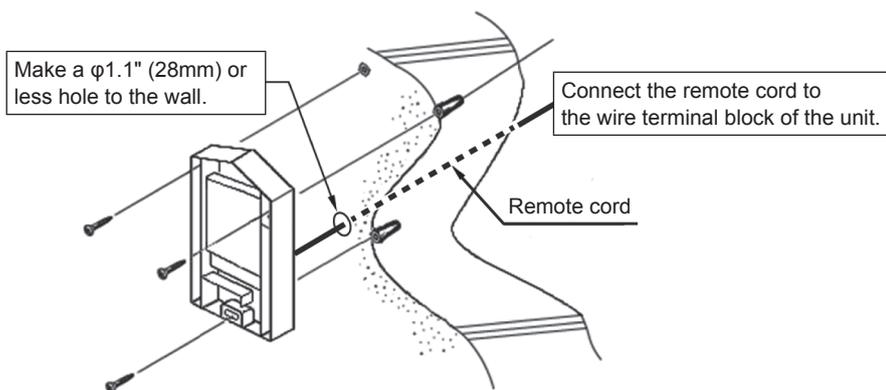
6. Electrical Wiring

Consult a qualified electrician for the electrical work.

⚠ WARNING

- Do not connect electrical power to all heaters and system controller (do not turn ON the power supply) before all electric wiring is completed. Otherwise, electric shock or failure of this product and the unit.
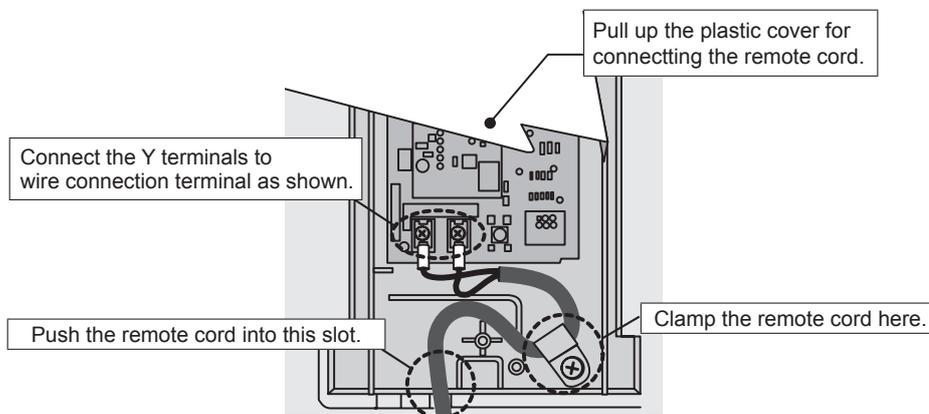- Do not use a damaged (cut, torn, etc.) remote cord.

⚠ 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.
- Do not touch the electronics parts other than the wire connection terminal as it may cause a malfunction.
- Be sure to tighten the screw to the wire connection terminal manually and do not use an electric drill or impact driver.
- Be sure to clamp the remote cord inside of this product according to instructions.

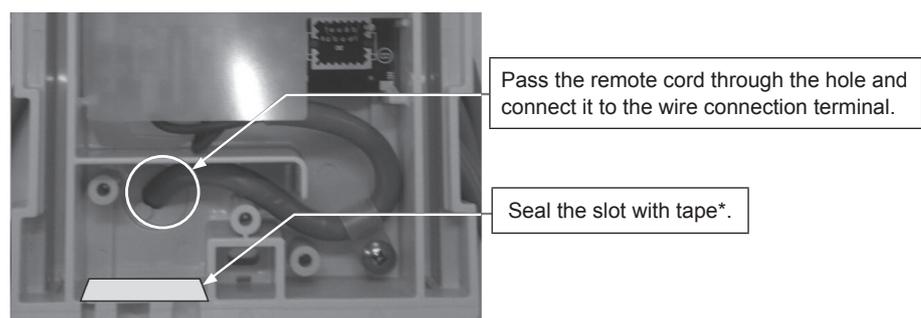## ■ Connecting the Remote Cord to This Product

● Bottom wiring

Pull up the plastic cover and connect the remote cord to wire connection terminal. (The wire connection terminal has no polarity.)

Then, return the plastic cover to its original position and hide the wire connection terminals.

Pull up the plastic cover for connectting the remote cord.

Connect the Y terminals to wire connection terminal as shown.

Push the remote cord into this slot.

Clamp the remote cord here.

● Through the wall wiring

Pull up the plastic cover and connect the remote cord to wire connection terminal. (The wire connection terminal has no polarity.)

Pass the remote cord through the hole and connect it to the wire connection terminal.

Seal the slot with tape*.

* To avoid invasion of debris and/or bugs, seal the slot with tape or other sealant.

■ Connecting of Remote Cord to Heater

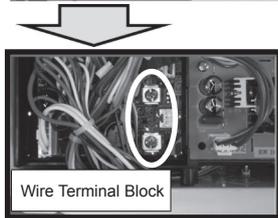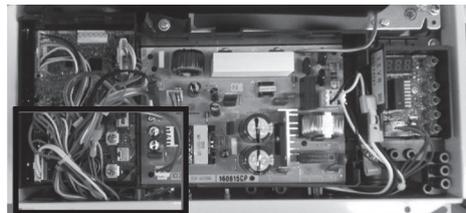## ● Unit has Wire Terminal Block for Remote Cord

Connect the remote cord to the unit's wire terminal block (This wire terminal block has no polarity).

Refer to the unit's installation manual for the location of the unit's wire terminal block and how to install.
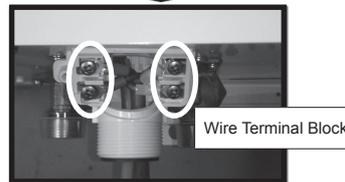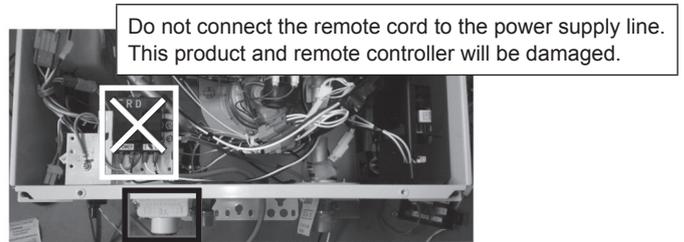(The Unit's installation manual can be downloaded from the Noritz support website.
   http://support.noritz.com/)

Two examples of connection to the wire terminal block are shown below.

Do not connect the remote cord to the power supply line.
This product and remote controller will be damaged.

Wire Terminal Block

Wire Terminal Block

Example 1: Wire Terminal Block inside the Unit

Example 2: Wire Terminal Block outside the Unit
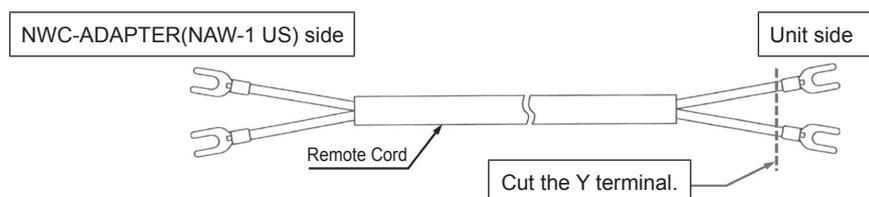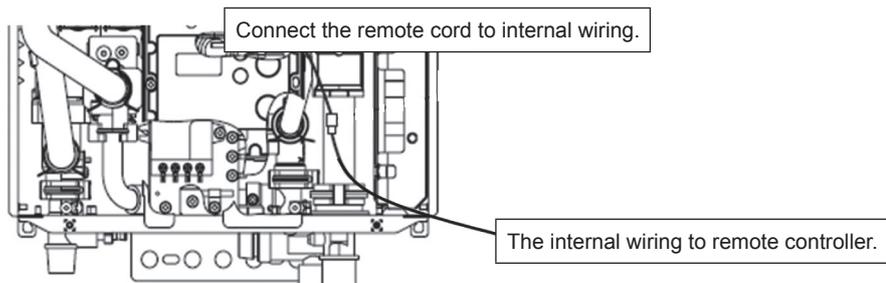
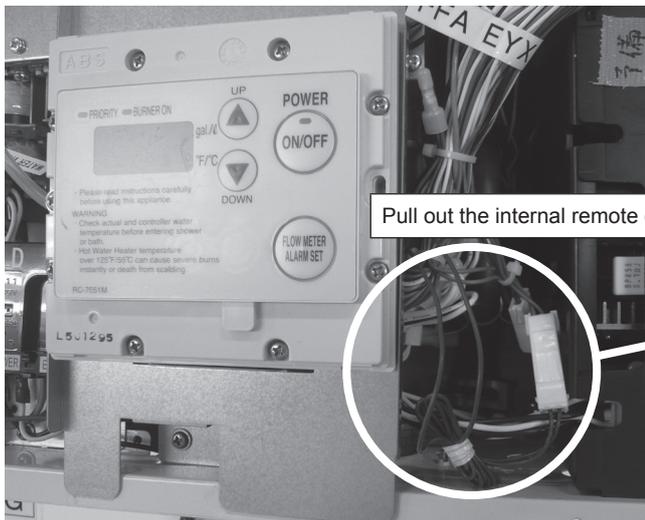## ● Unit does not have Wire Terminal Block for Remote Cord

Connect the remote cord to the unit with ScotchLok (TM) 558 connector (field supplied), as shown in below illustration.

When using ScotchLok, there is no need to cut the electrical wire inside the unit.
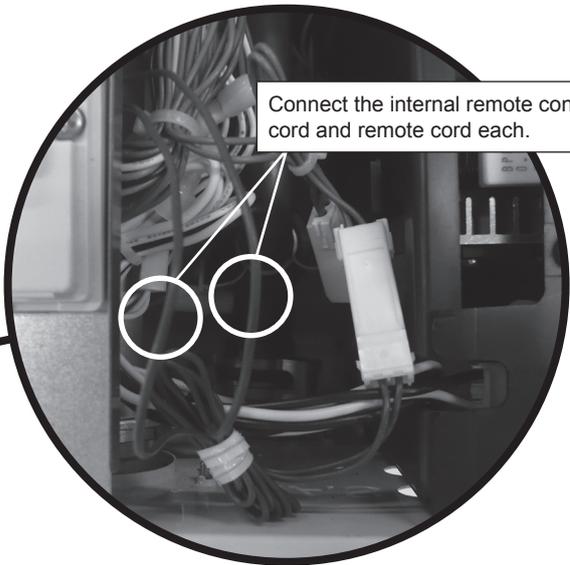
Cut the one side of Y terminal of the remote cord.

* Use a ScotchLok (TM) 558 connector with a 18AWG to 22AWG wire gage.

Connect the remote cord to internal wiring.

The internal wiring to remote controller.

NWC-ADAPTER(NAW-1 US) side

Unit side

Remote Cord

Cut the Y terminal.
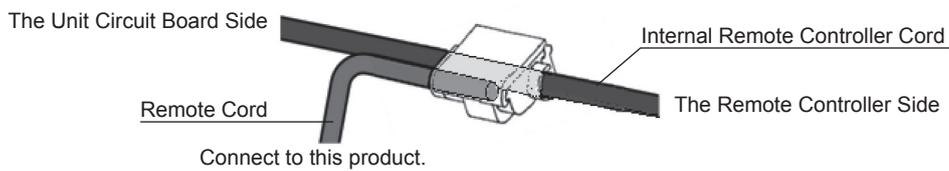
Pull out the internal remote cord.

Connect the internal remote controller cord and remote cord each.

ScotchLok (TM) 558

The Unit Circuit Board Side

Internal Remote Controller Cord

Remote Cord

The Remote Controller Side

Connect to this product.

7. Trial Operation

The installer should test operation of this product as described in below.

1. Connect electrical power to the unit. After 15 seconds all LEDs turn on for 3 seconds and then turn off.
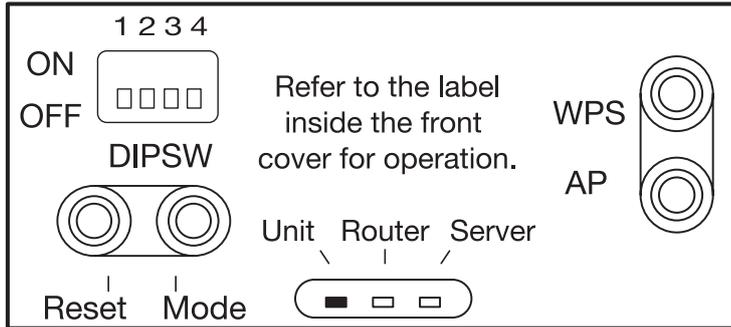
   If the LEDs do not turn on, this product is not receiving power.
   Check this product and the unit are correctly connected with the remote cord.

2. If this product correctly communicates with the unit, the Unit LED turns on within about 4 minutes.
   If this product does not communicate with the unit, the Unit LED will blink.

   * Other than the Unit LED may blink, but this is normal.

```
        1 2 3 4
  ON    ┌──────┐
        │ ☐☐☐☐ │   Refer to the label         WPS   ◎
  OFF   └──────┘   inside the front
                   cover for operation.         AP    ◎
      DIPSW
       ◎    ◎       Unit  Router  Server
                       \    |    /
     Reset  Mode     ( ▪  ☐  ☐ )
```

The instructions on connecting this product to the wireless router is located in the Owner's Guide.

8. Dimensions

< inch (mm) >

4.83" (122.6mm)

7.52" (191mm)

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NWC-ADAPTER

1.18" (30mm)

3 x 0.22" x 0.18" (3×5.5mm×4.5mm)
Oblong hole

4.83" (122.6mm)

4.02" (102mm)

0.94" (24mm)   2.01" (51mm)

1.36" (34.5mm)

7.52" (191mm)

5.59" (142mm)

4.99" (126.7mm)

0.91" (23mm)

0.59" (15mm)

0.32" (8mm)

0.24" (6.2mm)