

# T961NN50 Universal Wired Thermostat



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## Installation Guide

# Important Safety Instructions

English

## SAVE THESE INSTRUCTIONS

The applied nameplate is located at the bottom or rear of the product.

When using your thermostat equipment, basic safety precautions should always be followed to reduce the risk of fire, electric shock and injury, including the following:

1. This product should be installed by a qualified technician.
2. Read and understand all instructions.
3. Follow all warnings and instructions marked on the product.
4. Do not use liquid or aerosol cleaners. Use a damp cloth for cleaning.
5. Do not expose the product to liquid or install this in wet areas such as bathroom, near a sink, near a swimming pool, or in a damp basement.
6. Do not install this product on an unstable surface.
7. This product should not be installed near or over a radiator or heat register, or in any area where proper ventilation is not provided.
8. This product should be operated only from the type of power source indicated on the marking label.
9. To reduce the risk of electric shock, do not disassemble this product. Opening or removing parts of the thermostat may expose you to dangerous voltages or other risks. Incorrect reassembling can cause electric shock.
10. Remove this product and refer servicing to an authorized service facility under the following conditions:
  - a. If liquid has spilled onto the product.
  - b. If the product has exposed to rain or water.
  - c. If the product does not operate normally by following the operating instructions. Adjust only controls covered by the operation instructions.
  - d. If the product has been dropped resulting in physical damage.
  - e. If the product exhibits a distinct change in performance.
11. Avoid using the thermostat during an electrical storm. There is a remote risk of electric shock.
12. The thermostat should be mounted at a height of less than 6 feet.

   CAUTION:

- Keep small metallic objects such as pins and staples away from the thermostat.
- Avoids to use battery in following conditions:
  - High or low extreme temperature during use, storage or transportation.
  - Replacement of a battery with an incorrect type that can defeat a safeguard.
  - Disposal of a battery into fire or a hot oven, or mechanically crushing or cutting of a battery. that can result in an explosion.
  - Leaving a battery in an extremely high temperature surrounding environment that can result in an explosion or the leakage of flammable liquid or gas.
  - Extremely high temperature and/or extremely low air pressure that can result in an explosion or the leakage of flammable liquid or gas.
- Use 18~24 AWG only.
- For supply connections, use wires rated for 167°F (75°C) minimum.

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### EC Tool Pro App

Scan the QR code or click the link of one of the App stores



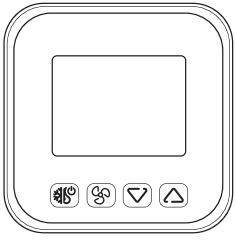
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## Support

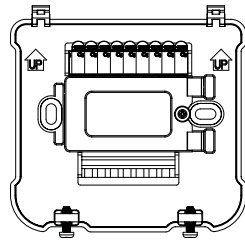
[tstatsupport@vtechhotelphones.com](mailto:tstatsupport@vtechhotelphones.com)

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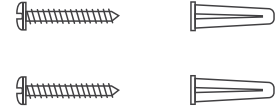
## In the Box



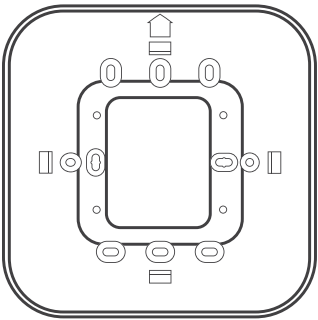
Thermostat



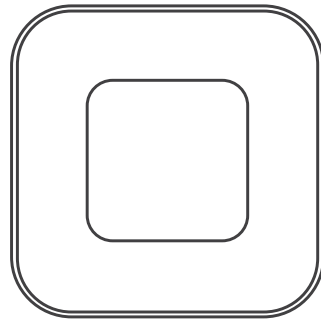
Wall Plate



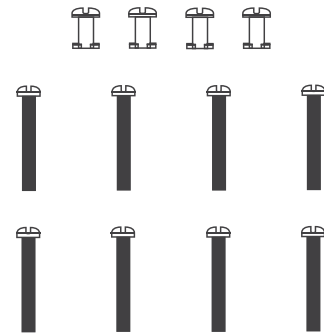
Wall Mount Screws & Anchors



Universal Deco Plate



Deco Plate Cover



T-Lock & Junction Box Screws

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## Required but Not Supplied

- Screwdriver set
- Drill and drill bits; 3/16" for drywall and 7/32" for plaster
- Pencil
- Level

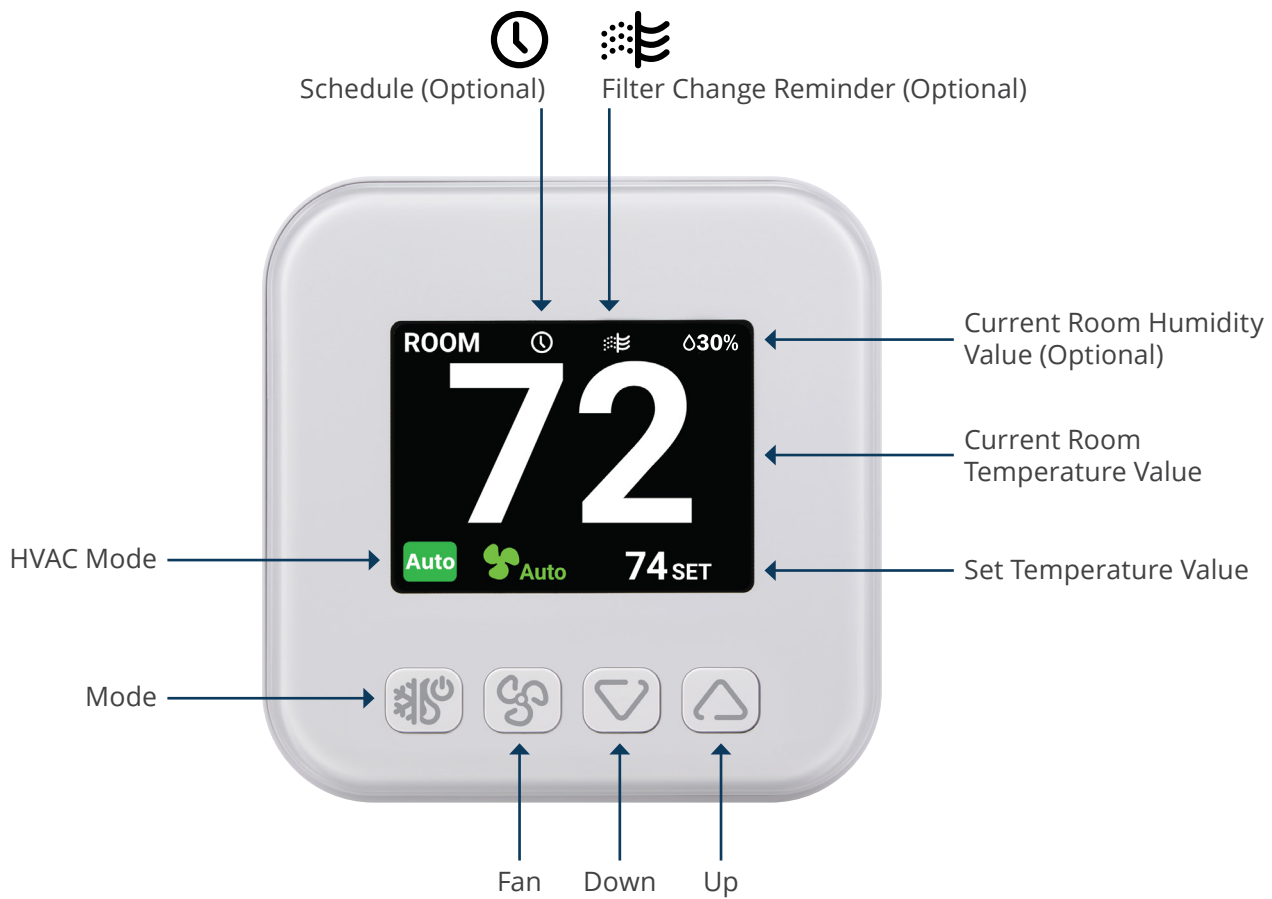
### Device Required



Smartphone with Bluetooth® feature

- iOS 15 or higher
- Android 12.0 or higher

# Thermostat Layout



**Note**

Only when the humidity, schedule, and filter change reminder features are enabled via the EC Tool Pro app, can the current room humidity, schedule, and filter change reminder be displayed on the screen.

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## Specifications

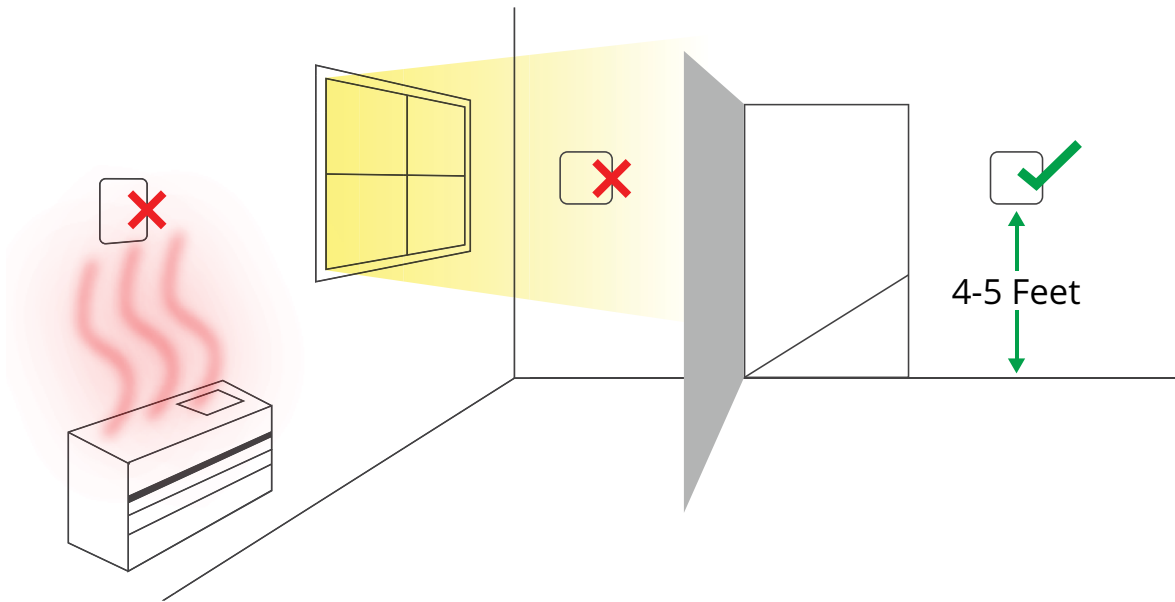
Product Dimensions	3.9" x 3.9" x 1.1" (9.9cm x 9.9cm x 2.7cm)
Mounting Type	Surface Mount, Junction Box*
HVAC System	PTAC/VTAC/Heat Pump/Conventional
Power Requirements	Input: 24VAC~ 50/60Hz with "C" common wire Output: 1.5A Max @ 24V AC
Display	2.8" TFT (240 x 320, RGB)
Display Back Light	Configurable - Dimming or Off
Display Brightness	3 Levels
Number of Buttons	4 Hard Buttons
HVAC System Modes	Auto, Cool, Heat, and Off
Fan Modes	Fan Modes in 1 Fan Speed Setting: Auto, On, and Off Fan Modes in 2 Fan Speed Setting: Auto, Low, High, and Off
Temperature Set Range	49°-89°F / 9.5°-31.5°C
Room Temperature Display Range	32°-122°F / 0°-50°C
Room Humidity Display Range	0-95% RH (If the real room humidity rises above 95%, the thermostat screen will still show 95%.)
Terminal Connections	R, C, Y1, W1/AUX, W2/O/B, Y2/Gh, G/GI
Max Stages Supported	PTAC/VTAC: 2H1C 2-speed Fan Heat Pump: 3H2C 1-speed Fan Conventional: 2H1C 1-speed Fan
Recommended Wire	18~24 Gauge (Solid)
Fuel Types	Gas, Electric
Disconnection Type	1.B
Rated Impulse Voltage	800V
Pollution Degree	2
Automation Cycle	50,000

\* A universal deco plate kit is required for junction box mounting.

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## Important Things to Know Before Installation

- This product should be installed by a qualified technician.
- Carefully read these instructions. You could damage this product or cause a hazardous condition if you fail to follow these instructions.
- Electrical Hazard Caution: Turn OFF power to your HVAC system before installation. Failure to disconnect the power before beginning to install this product can cause electrical shock or equipment damage.
- Do not over-tighten the screws during mounting.



### The thermostat **should be mounted:**

- Approximately 4 - 5 feet above the floor
- In a central location with average temperature and humidity
- On an interior wall that is easily accessible
- In a location with good air circulation

### The thermostat **should not be mounted:**

- Where it is exposed to direct sunlight
- To a wall that contains concealed chimneys or pipes
- Where there is obstructed air flow such as in corners or behind doors
- Directly above or below an hot or cold air ducts
- On an exterior wall

# ⚠ WARNING

- **INGESTION HAZARD:** This product contains a button cell or coin battery.
- **DEATH** or serious injury can occur if ingested.
- A swallowed button cell or coin battery can cause **Internal Chemical Burns** in as little as **2 hours**.
- **KEEP** new and used batteries **OUT OF REACH of CHILDREN**.
- **Seek immediate medical attention** if a battery is suspected to be swallowed or inserted inside any part of the body.
- The product contains **Non-replaceable batteries**.  
Compatible battery type CR1220. Nominal battery voltage 3V.



## ⓘ Cautions

- The factory installed clock backup battery is not replaceable and rechargeable. There may be a risk of explosion if a wrong type of clock backup battery is used. Use only the factory installed non-replaceable battery (Compatible battery type CR1220, Nominal battery voltage 3V) and do NOT recharge the battery.
- Even used batteries may cause severe injury or death.
- Do not force discharge, recharge, disassemble, heat above 212°F (100°C) or incinerate. Doing so may result in injury due to venting, leakage or explosion resulting in chemical burns.
- Call a local poison control center for treatment information.
- Remove and immediately recycle or dispose of used batteries according to local regulations and keep away from children. Do NOT dispose of batteries in household trash or incinerate.
- Battery must be removed from the thermostat before it is scrapped.
- Thermostat must be disconnected from the supply mains when removing the battery.
- Battery is to be disposed of safely.

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# Installation Process

## 1. Power off your HVAC system

Disconnecting the power protects you and avoids damage. After disconnecting, adjust the set temperature to confirm the system is off.

## 2. Carefully remove the cover from your old thermostat

## 3. Verify system compatibility

Inspect the wire connections to verify system compatibility.

**CAUTION:** The T961 is compatible with low-voltage (24V), single transformer systems only. If you inspect and find any of the following, then the T961 is not compatible with your system.

1. Labels on the wiring or old thermostat warning of High Voltage, 120V, or 240V connections.
2. Thick electrical wires that are connected using wire nuts.
3. If your old thermostat supports RC and RH terminals that are wired separately (not connected via jumper wire)

If you have any enquiries about system compatibility, email [tstatsupport@vtechhotelphones.com](mailto:tstatsupport@vtechhotelphones.com).

## 4. Remove jumper wires (if any)

Jumper wires are short wires between two connectors. You won't need them.

## 5. Take a photo of the wires while connected to your old thermostat

Take a photo of wire color/terminals that you can refer to later. You may also consider labeling the wires to match the terminals (R, C, G, Y, W, etc.).

## 6. Disconnect wires from old thermostat

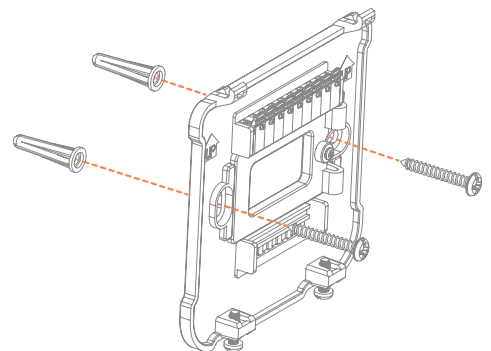
Carefully disconnect the wiring from the old thermostat. Once removed, wrap the wire bundle around a pencil to prevent them from falling back into wall.

## 7. Attach the wall plate

### Mounting Option 1: Direct Wall Mounting

Hold the wall plate up to the wall where you want the thermostat to be mounted. Make sure that the wire bundle aligns near the center of the wall plate. Verify the plate is level with a bubble level, then mark the screw positions through the screw holes in the wall plate.

Using your marks as reference, drill 2 holes and install the provided wall anchors. If you will be using c-wire or 24vac adapter to power the thermostat, route the wires through the opening in the center of the wall plate, then secure it to the wall with the provided screws. The slots in the wall plate will help to compensate for any minor misalignment.



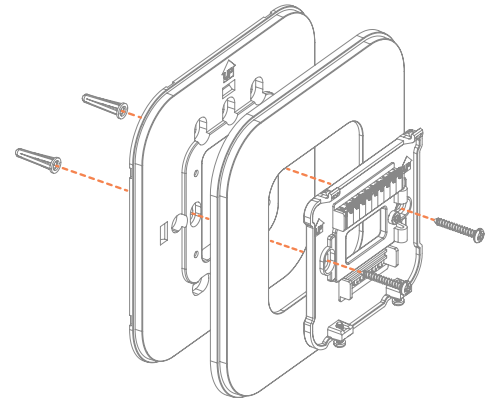
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# Installation Process

## 7. Attach the wall plate

### Mounting Option 2: Direct Wall Mounting with Deco Plate Kit

Hold the deco plate up to the wall where you want the thermostat to be mounted. Make sure that the wire bundle aligns near the center of the deco plate. Verify the plate is level with a bubble level, then mark the screw positions through the screw holes in the deco plate.

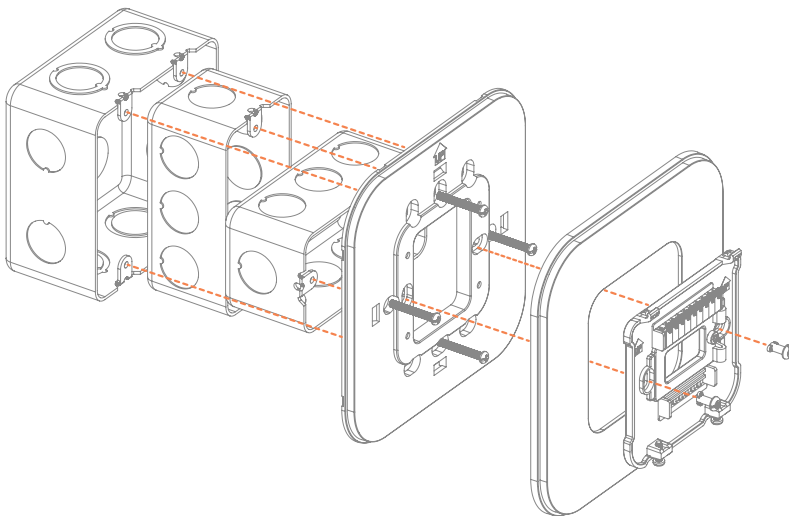


1. Push the cover towards the deco plate until it clicks into place.
2. Using your marks as reference, drill 2 holes and install the provided wall anchors. Route the wires through the opening in the center of the deco plate, then the wall plate.
3. Align the screw holes and secure them to the wall with the provided screws. The slots in the wall plate will help to compensate for any minor misalignment.

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### Mounting Option 3: Direct Wall Mounting with Junction Box and Deco Plate Kit

1. Attach the deco plate to the junction box with the provided junction box screws.
2. Push the cover towards the deco plate until it clicks into place.
3. Attach the wall plate to the deco plate with the provided T locks.
4. Route the wires in the junction box through the openings in the centers of the deco plate and the wall plate.



## 8. Connect wires to the wall plate

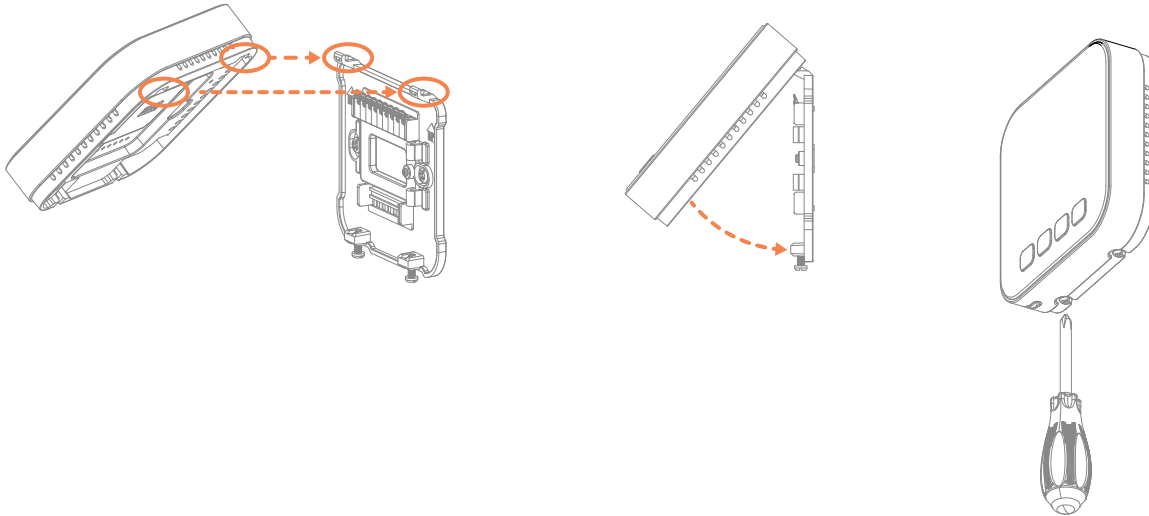
To wire the wall plate, refer to the wiring guide displayed in the system profile that you created for your HVAC system using the EC Tool Pro App or the T961NN50 Wiring Guide. Once all wires are securely connected, press the wires down to ensure they are flush with the wall plate.

# Installation Process

## 9. Attach the thermostat

Swing the thermostat into position by engaging the lugs at the top of the wall plate before pushing it carefully home into its plug-in terminal block.

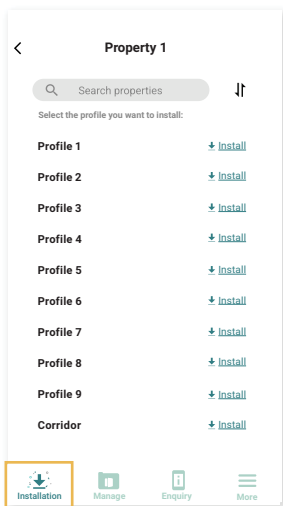
Lock the thermostat into place by tightening the 2 Phillips screws located on the bottom edge of the thermostat.



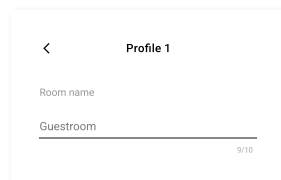
## 10. Switch the power back on

Turn on power to your HVAC system. When the thermostat powers up, install your saved profile from the EC Tool Pro app into the thermostat.

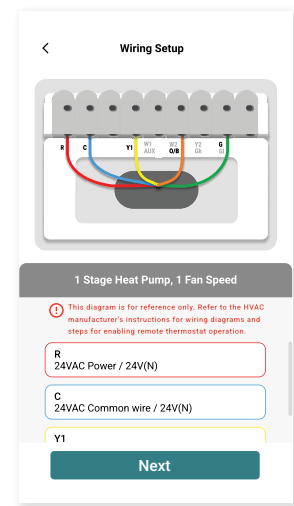
Tap Installation tab, then locate the profile you want to install.



Enter your room name and tap Next.



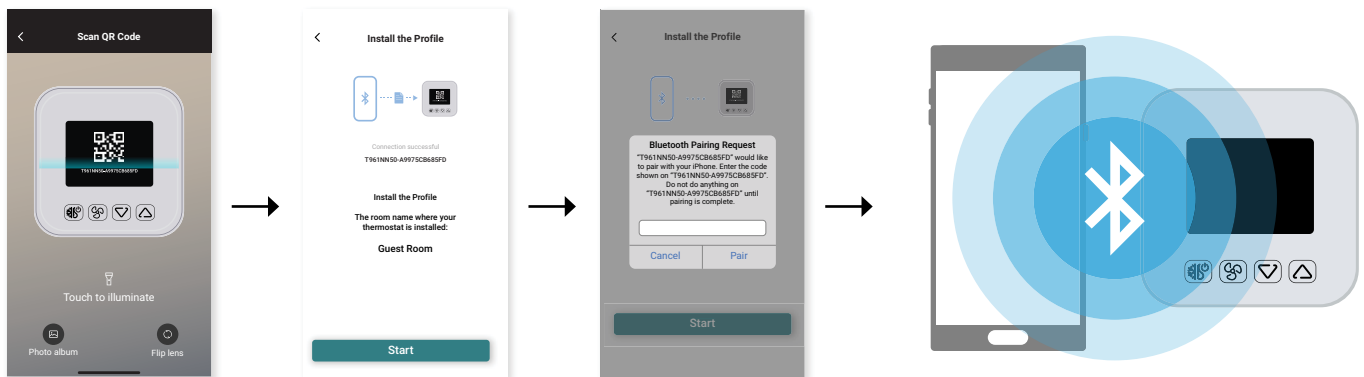
Tap Next after previewing the wiring diagram.



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## Installation Process

Once you see the Connect Device screen in the app, move to the thermostat. Using Mode (⊞), Up (△), and Down (▽) buttons, select System Settings > System Configuration > Adv. Config. via App > Bluetooth. Using the app, tap Scan QR Code, then use your camera to scan the QR code displayed by the thermostat. Enter the Bluetooth passkey that appears on the thermostat into the app, then tap Start to install the profile. Once the profile has been installed, you will see Success popup in the app and the thermostat. The thermostat will reboot upon completion and tap the Done button in the app. You can now test the thermostat.



### Note

For more information related to creating or managing your thermostat's profile, refer to the T961NN50 Configuration Guide.

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## FCC and IC Regulatory Statements

### FCC Compliance Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Warning: Changes or modifications to this unit not expressly approved by VTech could void the user's authority to operate the equipment.

**NOTE:** This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

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## FCC and IC Regulatory Statements

### RF Exposure Information

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. In order to avoid the possibility of exceeding the FCC radio frequency exposure limits, human proximity to the antenna shall not be less than 20cm during normal operation.

### ISED Warning

This device complies with Innovation, Science, and Economic Development Canada license exempt RSS standard(s). Operation is subject to the following two conditions:

1. this device may not cause interference.
2. this device must accept any interference, including interference that may cause undesired operation of the device.

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## Maintenance

Your thermostat contains sophisticated electronic parts, so it must be treated with care.

### Avoid rough treatment

Place the thermostat down gently. Save the original packing materials to protect your thermostat if you ever need to ship it.

### Avoid water

Your thermostat can be damaged if it gets wet. Do not use the thermostat outdoors in the rain or handle it with wet hands. Do not install thermostat near a sink, bathtub, or display.

### Electrical storms

Electrical storms can sometimes cause power surges harmful to electronic equipment. For your own safety, take caution when using electrical appliances during storms.

### Cleaning your thermostat

Your thermostat has a durable plastic casing that should retain its luster for many years. Clean it only with a soft cloth slightly dampened.