Daikin *One*+ Smart Thermostat Installation & Commissioning (S21)

Technical Training Module TRC-4

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Agenda

- Daikin *One+*
- System Configurations
- Installing Daikin *One+*
- Commissioning Daikin *One+*
- Full Set-up
- Dealer Navigation
- Homeowner Navigation
- Mobile Apps

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Daikin *One+* Smart Thermostat

- Premium control that provides optimal comfort.
- Easy to use, energy efficient, reliable, and ensures that the system is set up properly.
- Designed to regulate and communicate with HVAC equipment.
- The user will be able to control the indoor unit remotely through the Daikin One Home app.

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Daikin *One+* Smart Thermostat

- Offers communication when combined with Single and Multi-Zone indoor unit models (S21 only).
- Is a cloud-connected hub and controller for communicating HVAC systems.

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Daikin *One+* Interface

- The thermostat has a physical dial on the right used for manual setpoints adjustments.
- Pressing the center of the dial at any time during normal mode acts as a home button, displaying the primary screen.
- The high-resolution touch screen on the left supports tactile-based interactions.
- Navigating to each screen is done by tapping an icon.

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Daikin *One+* Smart Thermostat

Messaging

- Daikin One's messaging updates, confirms, and informs about selections you make during set-up and operation.
- There are four types of messages:
  - Status
  - Alerts
  - Reminders and Prompts
  - Learn more/tips

Note: Alerts have priority over all other messages in the system.

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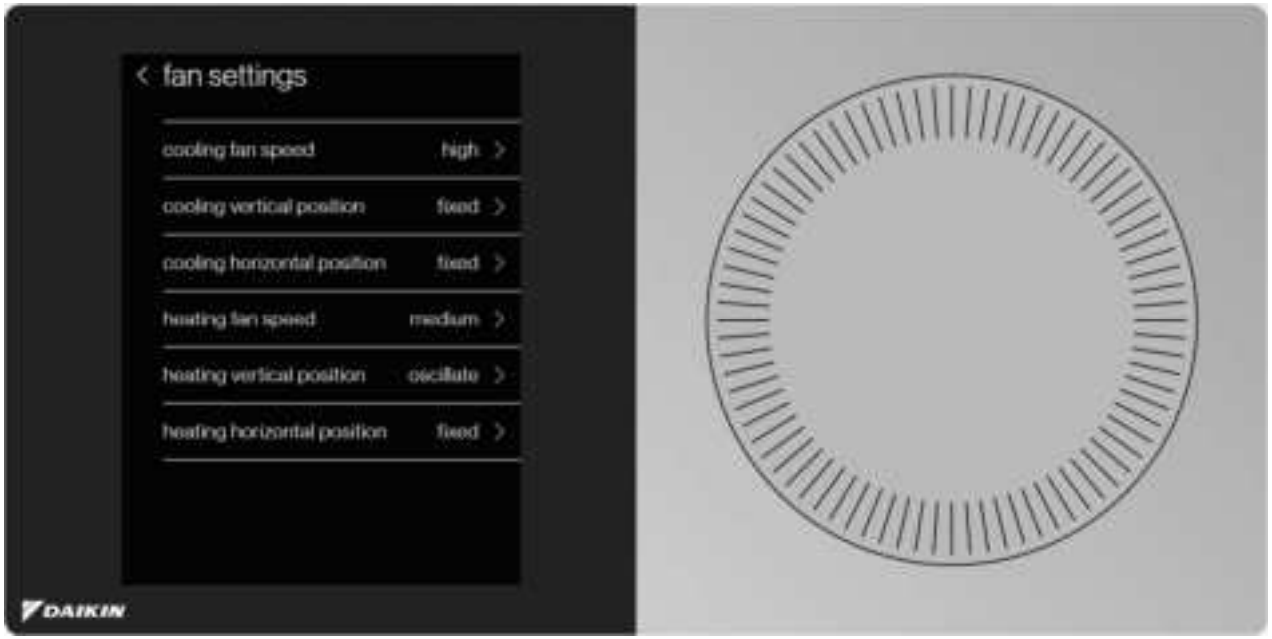
Messaging

- The homeowner can temporarily dismiss the message or restart the system; however, some alerts may remain until the issue is resolved by a dealer.



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Packaging

- Welcome documentation.
  - Includes quick reference cards.
- Daikin One+ smart thermostat.
- Translation adapter with cover, mounting plate and power cable.
- Double-sided adhesive tape.
- Mounting screws.
  - One set for thermostat.
  - One set for translation adapter.
- Thermostat terminal plate.
- S21 cable.
- Optional trim plate.

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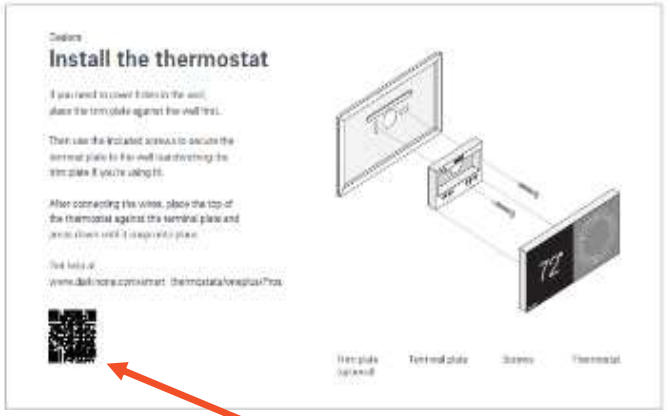
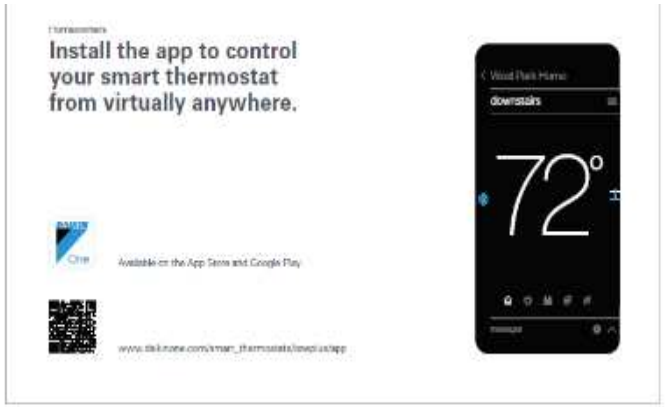
Daikin *One+* Smart Thermostat

Quick Reference Card

- Quick reference cards are packaged with the thermostat to help answer questions during the installation and commissioning.

Scanning the bar code on the **bottom left** corner will link you to a website related to the title of the card.





https://daikinone.com/smart_thermostats/oneplus/pros/

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Daikin *One+* Smart Thermostat for S21 Indoor Units

Indoor units that have S21 Interface

Notes: the Daikin *One+* is not compatible with:
handheld IR remote controller – BRC944 – KRP928

Indoor units that do not have S21 Interface

Indoor Unit Models (require interface adaptor)	Required Interface Adaptor
FTXM09VVJU, FTXM12VVJU, FTXM18VVJU, FTXM24VVJU	KER087A41
FTX09NMVJU, FTX12NMVJU	KRP067A41E
FTX15NMVJU	KRP980B2E

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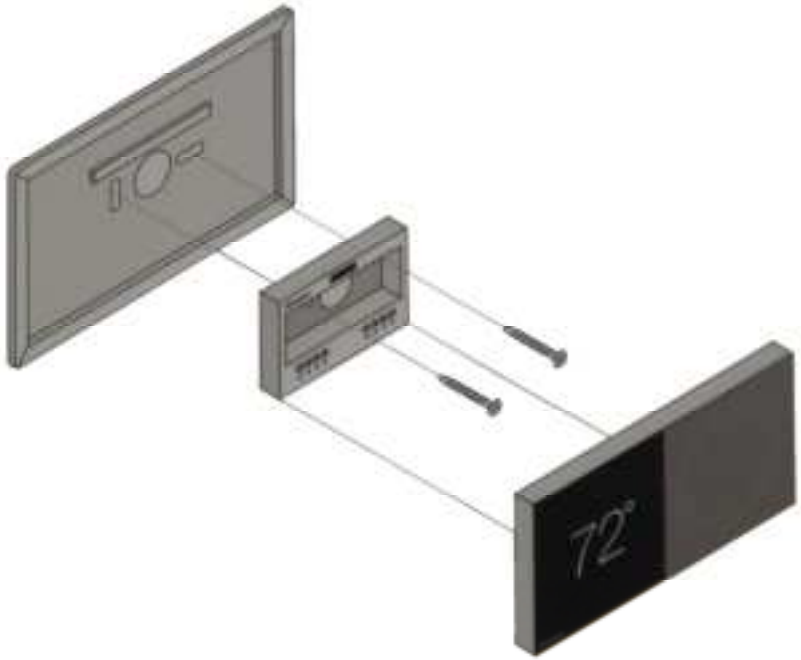
Installing Daikin *One+* Smart Thermostat

- Mount the thermostat to be
  - Leveled.
  - Approximately 5’ from the floor.
  - On an interior wall using the included screws.



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Installing Daikin *One+* Smart Thermostat

- Maximum wire distance between the Daikin *One+* and the translation adaptor should not exceed **125 feet using four conductor 18-gauge field supplied wire.**
- **Check for proper voltage before and after wiring is installed.**
  - 0.6VDC between Data 1 and 2.
  - 24VDC between R and C.
    - Refer to system I/O manual for proper voltage.

Note: If wired incorrectly, you will receive an error.

- **If power wires are reversed the PWR LED will flash green.**

Aux1 to Aux 1C and Aux 2 to Aux 2C connections are 24V AC Dry contacts.

1 Data Line 1
2 Data Line 2
C 24 volt common
R 24 volt power

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Installing Daikin *One+* Smart Thermostat

DO NOT Install The Thermostat Where It Can Be Affected By:

- Drafts or dead spots behind doors and in corners.
- Hot or cold air from ducts or ceiling fans.
- Radiant heat from the sun or appliances.
- Concealed pipes and chimneys.
- Unheated (uncooled) areas such as an outside wall.

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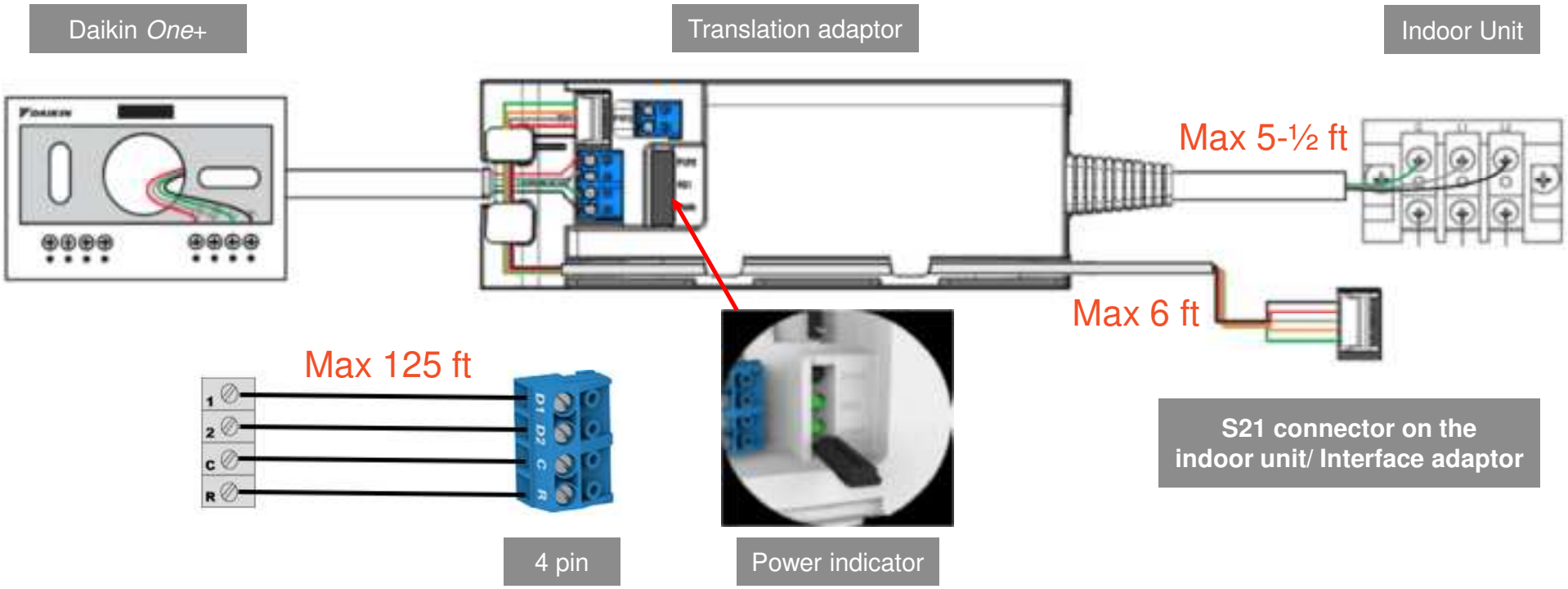
Installing Daikin *One+* Smart Thermostat

Wiring thermostat to a translation adaptor



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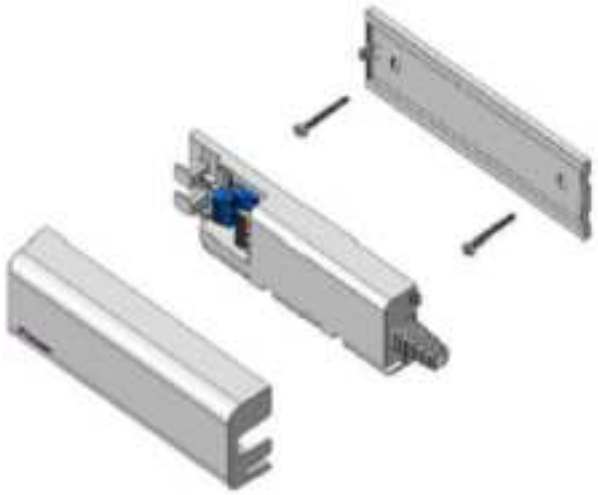
Installing Translation Adaptor

Mounting the translation adaptor.

- Mount using screws or adhesive tape.
  - Never use screws to mount to an indoor unit.
    - If using adhesive tape, you can mount to the surface of the indoor unit.
      - Clean the surface prior to mounting.
      - Apply pressure for a minimum of 20 seconds to the adaptor for adhesion to take place.



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Installing Translation Adaptor

Wall mounted indoor unit

- Translation adaptor can be mounted inside piping chase to conceal it, or on the outside of the indoor unit.

Ducted indoor unit

- Translation adaptor can be mounted on the side and top of the indoor unit, or above the ceiling using supplied double-sided adhesive tape.

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Commissioning Daikin *One+* Smart Thermostat

- Begin set-up: walks installers through the entire commissioning process to ensure the system is configured properly and ready for the homeowner to use.
  - Enables random access to any setting.
  - Remembers settings as they are entered.
  - Individual may stop and restart as needed.
- The screens are populated based on the model numbers of the equipment, matched to a database of device configuration settings.

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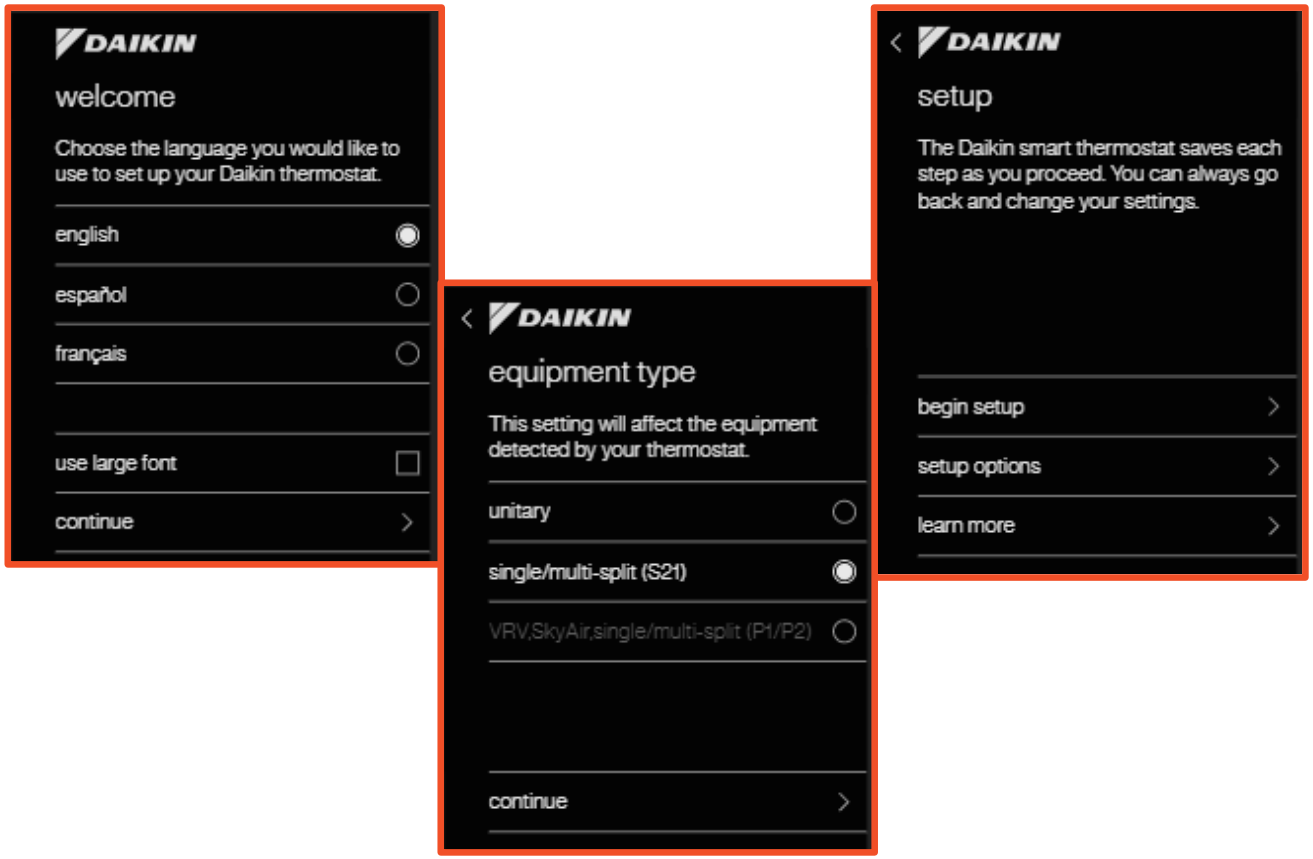
Commissioning Daikin *One*+ Smart Thermostat

- Start-up screen is displayed upon powering the thermostat.
- The welcome screen displays preferences to choose from.
- Select Single/Multi-split (S21) before moving to the setup screen.
- Version of the thermostat is displayed on the learn more screen.



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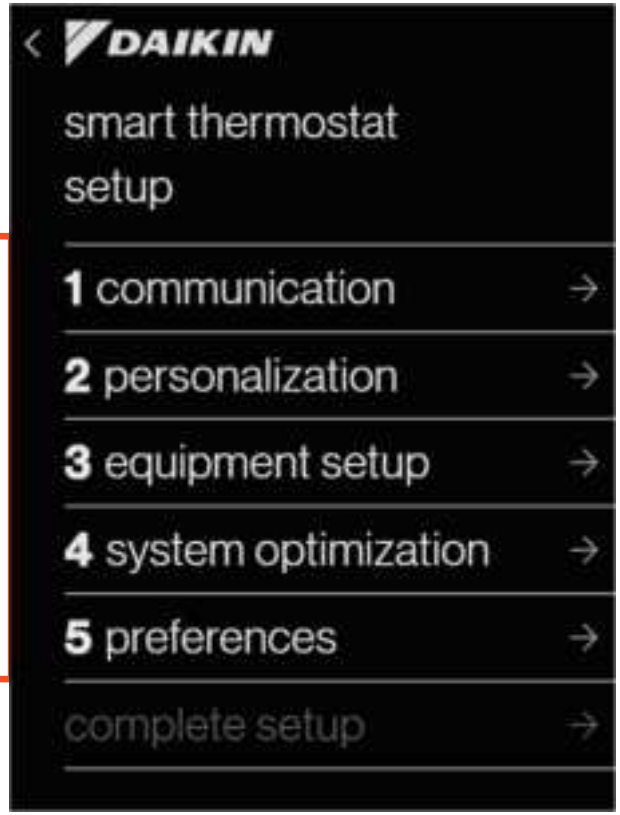
Full Set-up

Start-up

- **Tapping begin set-up starts the five step set-up process:**
  - Communication.
  - Personalization.
  - Equipment Set-up.
  - System Optimization.
  - Preferences.

- **Note:** All steps must be completed and reviewed before completing set-up to ensure the system is configured properly and ready for the homeowner to use.



For detailed menu settings
https://daikinone.com/smart_thermostats/oneplus/pros/

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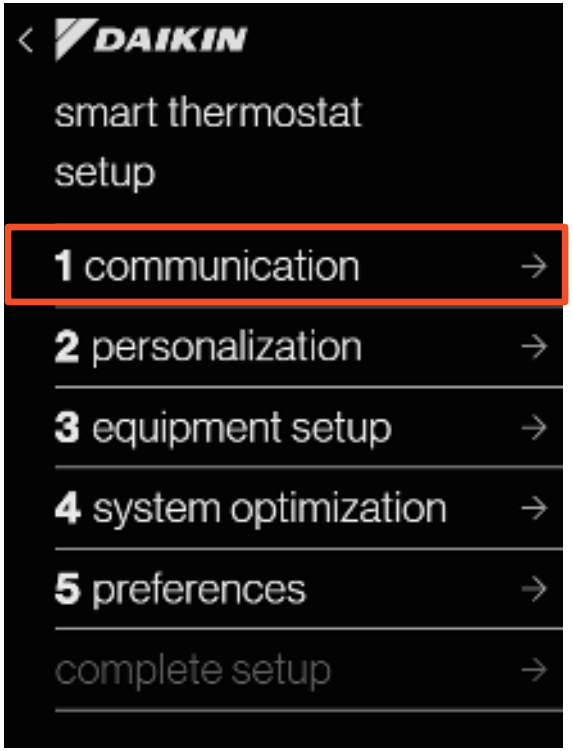
Full Set-up

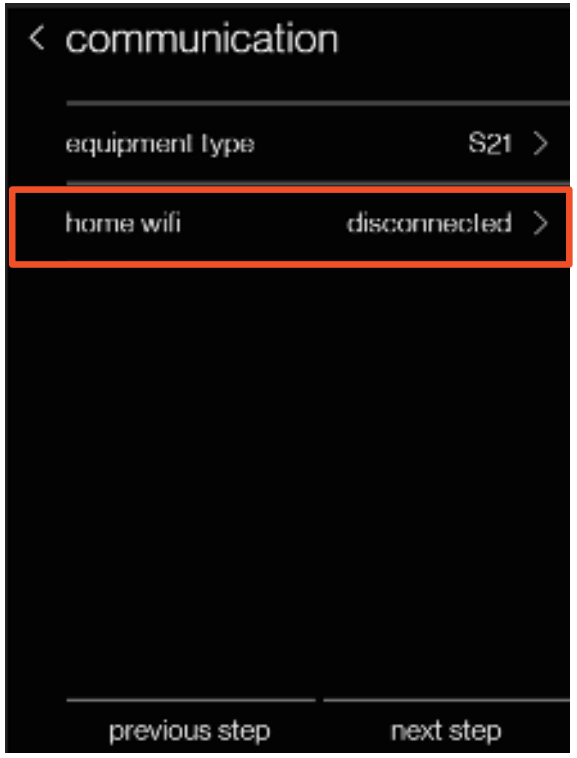
Step 1 - Communication

- Configures **Communication Networks**.
- Select home Wi-Fi to search for networks.
- With **Wi-Fi configured**, the system can check the software version and update software to the **latest** version **automatically**.

Note:

- Wireless router must be password protected.
  - Compatible with 5Ghz routers which supports 2.4Ghz
- Equipment type displays the equipment selected on start up.





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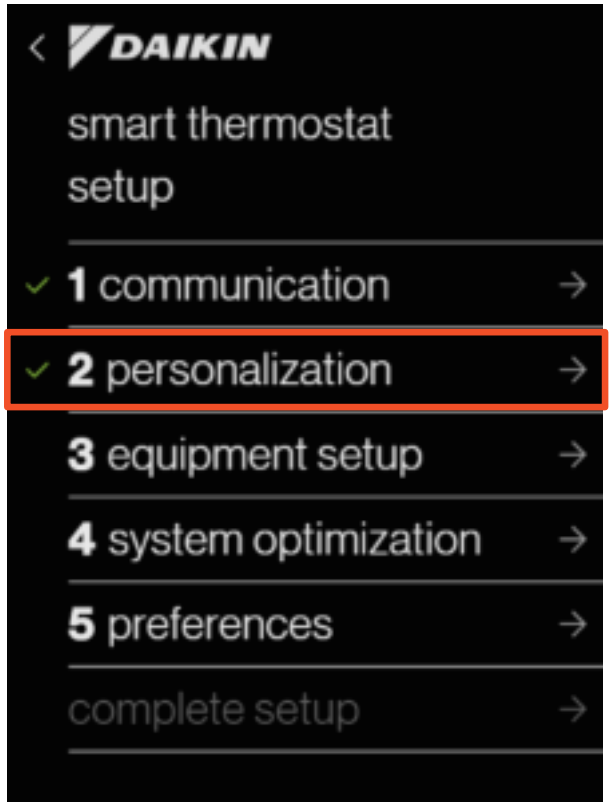
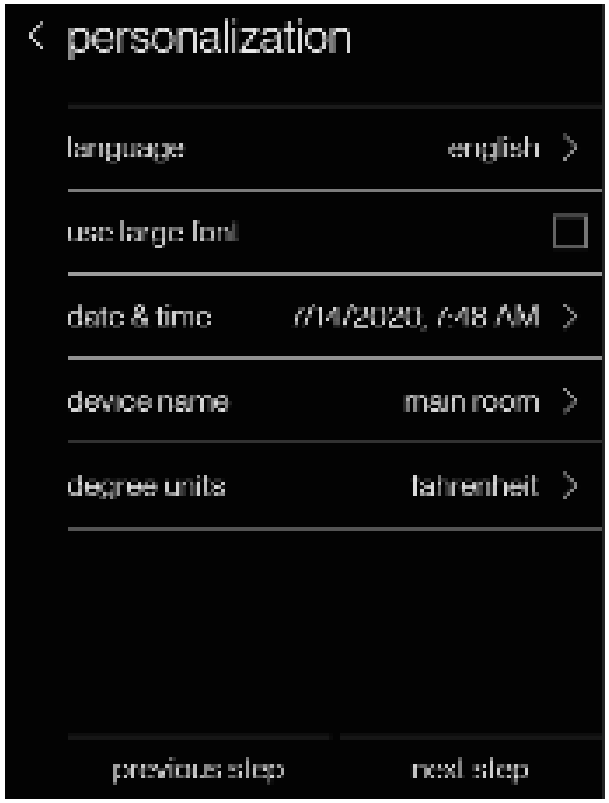
Full Set-up

Step 2 - Personalization

- Tapping the **personalization tab** allows you to edit default information.
- Personalization displays:
  - Language.
  - Large font selection.
  - Date & Time.
    - If Wi-Fi is connected, date & time sets automatically.
  - Thermostat Name.
  - Degree Units.

Note: A green check mark appears next to items reviewed from the set-up menu.





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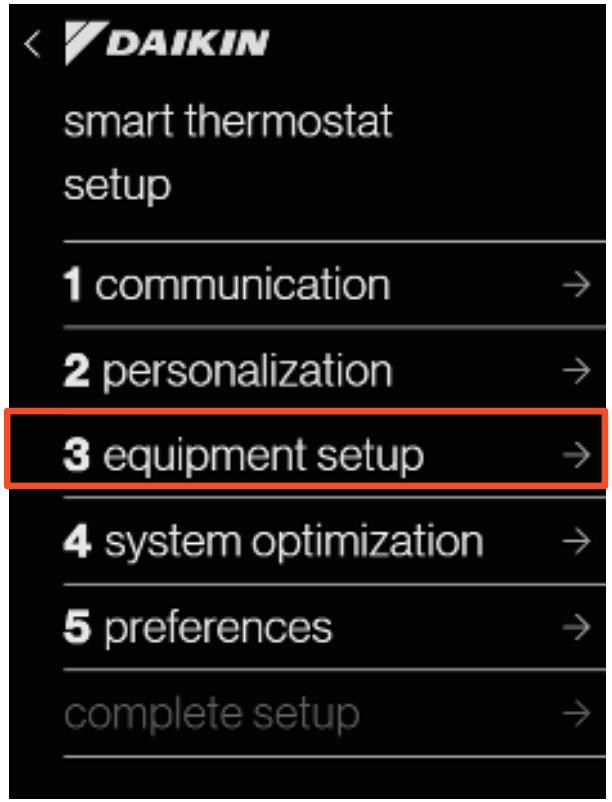
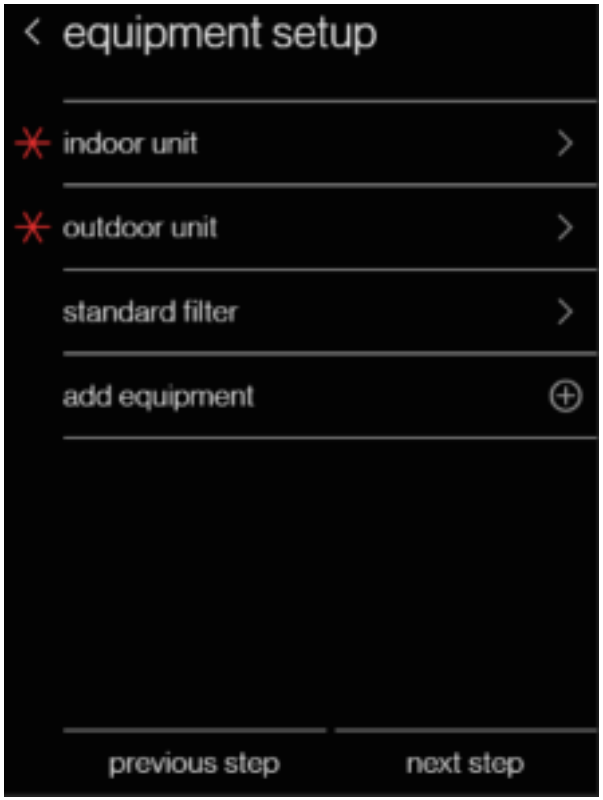
Full Set-up

Step 3 - Equipment Set-up

- Provides a list of equipment and accessories to add or remove from.
  - You must manually enter the equipment serial number to the indoor and outdoor unit after the model number is selected.





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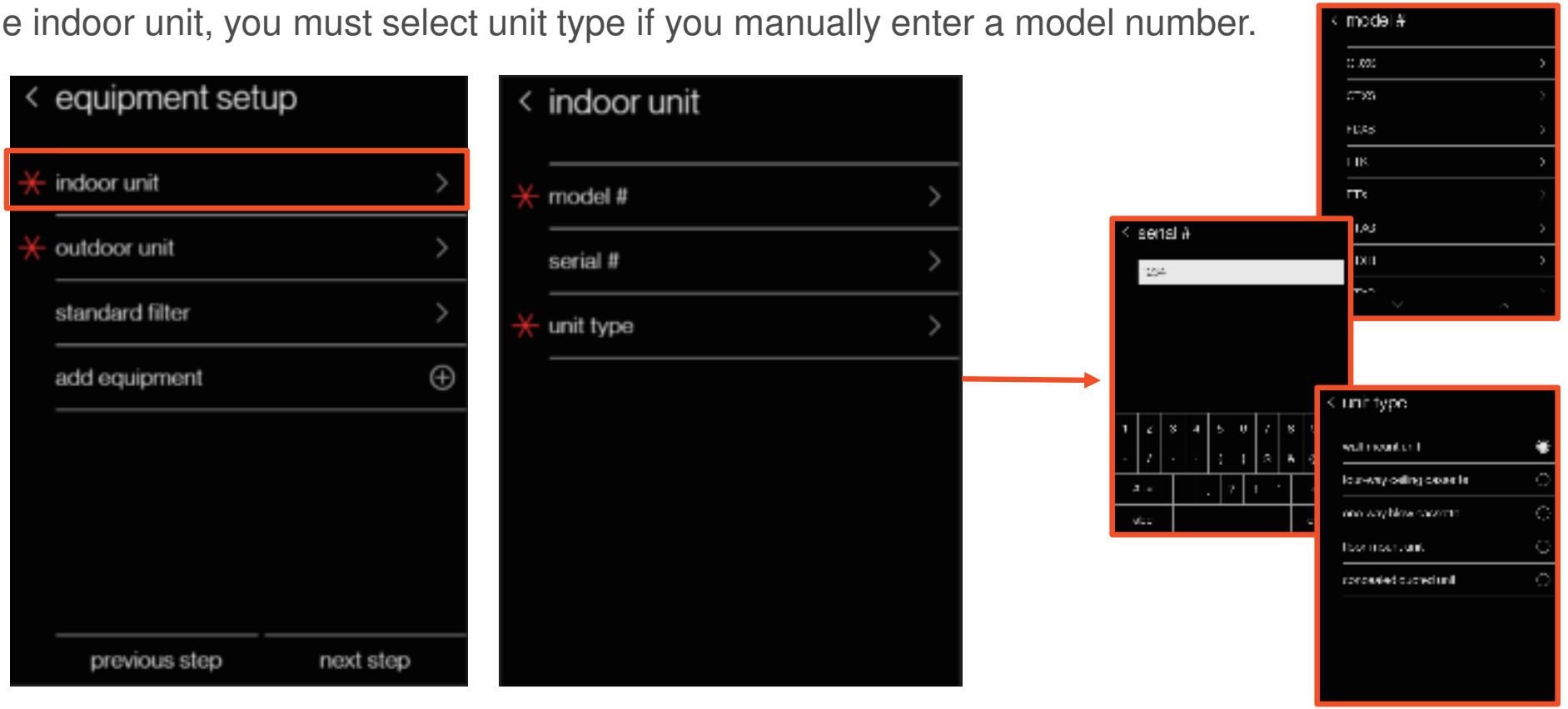
Full Set-up

Step 3 - Equipment Set-up

For the indoor unit, you must select unit type if you manually enter a model number.



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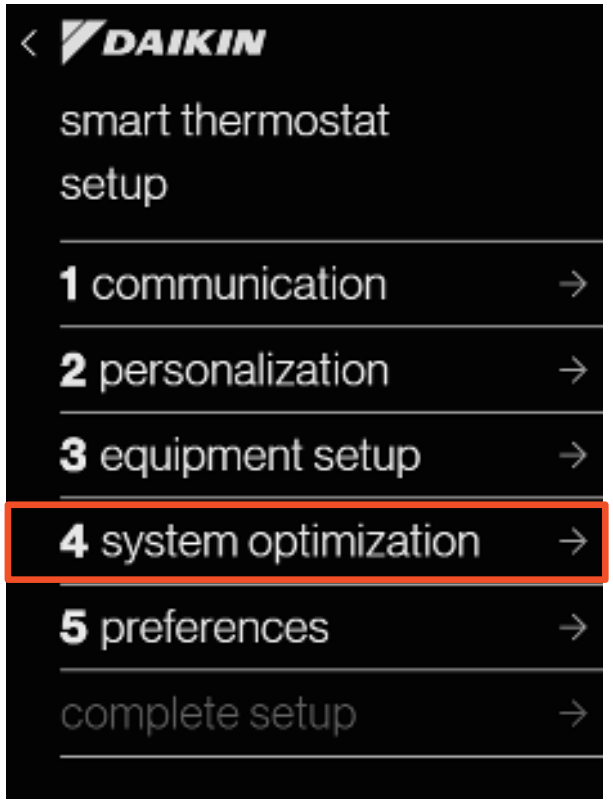
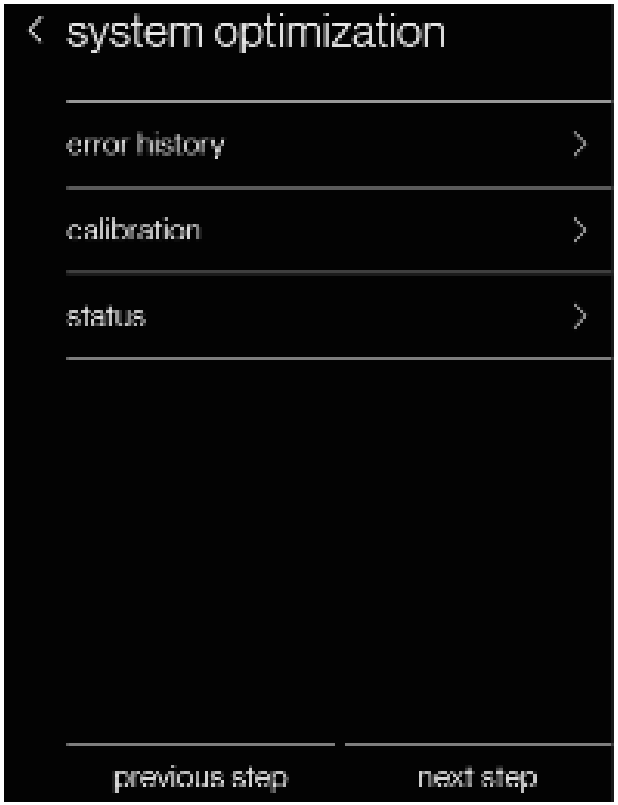
Full Set-up

Step 4 – System Optimization

- System optimization displays:
  - Error history.
    - Logs alerts with an error code.
      - **White = not critical**
      - **Yellow = critical**
- Calibration. Thermostat must be in OFF mode.
  - Wait 30 minutes before calibration for the thermostat to equalize.
- Status.
  - The status menu displays data pertaining to the selected equipment.





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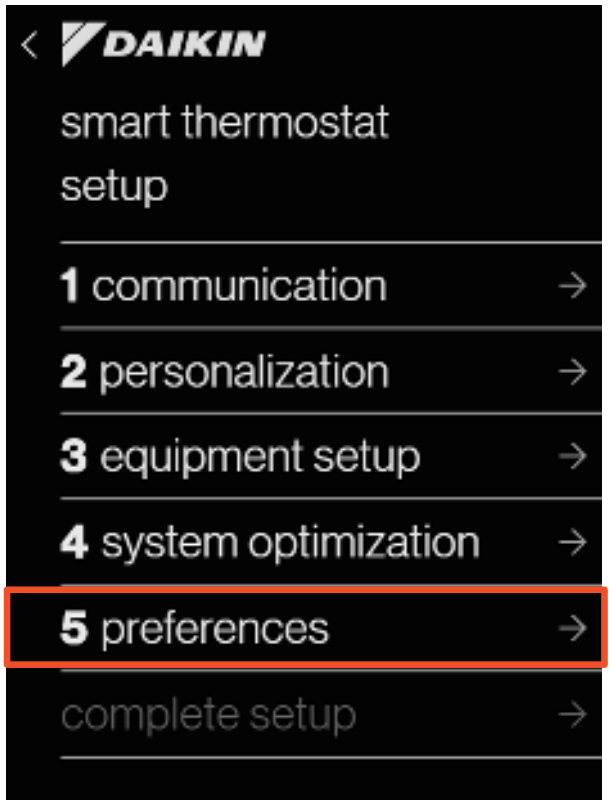
Full Set-up

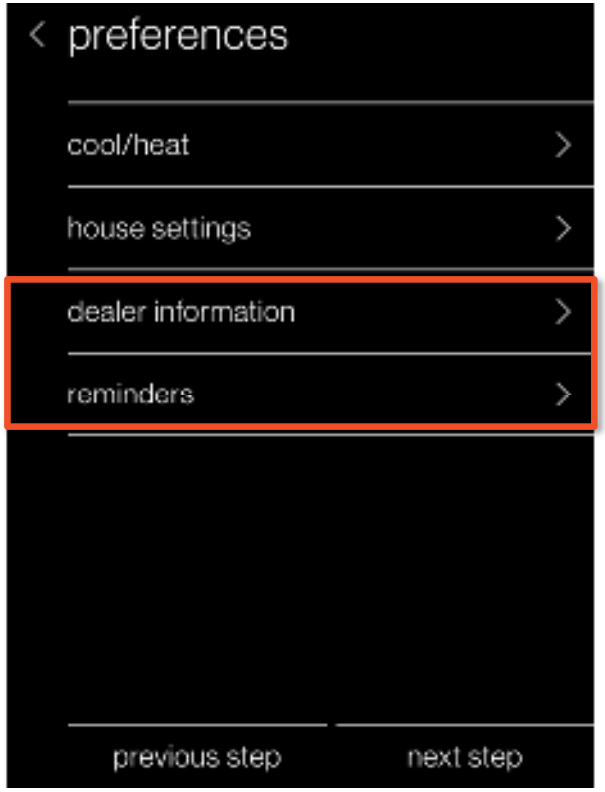
Step 5 - Preferences

- There are four preference settings to choose from in order to optimize your systems performance.
  - Cool/Heat
  - House settings
  - Dealer information
  - Reminders

Note:

- Dealer contact information and reminders should be inputted.
  - The homeowner cannot edit service reminders.





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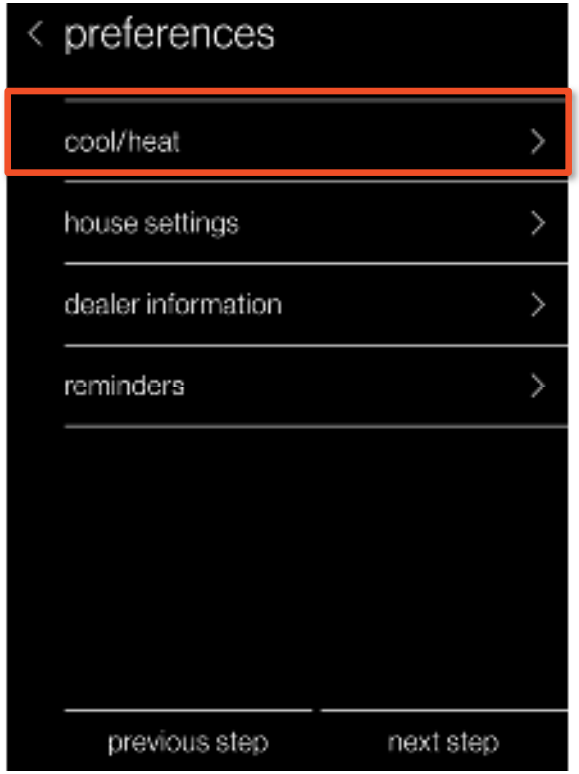
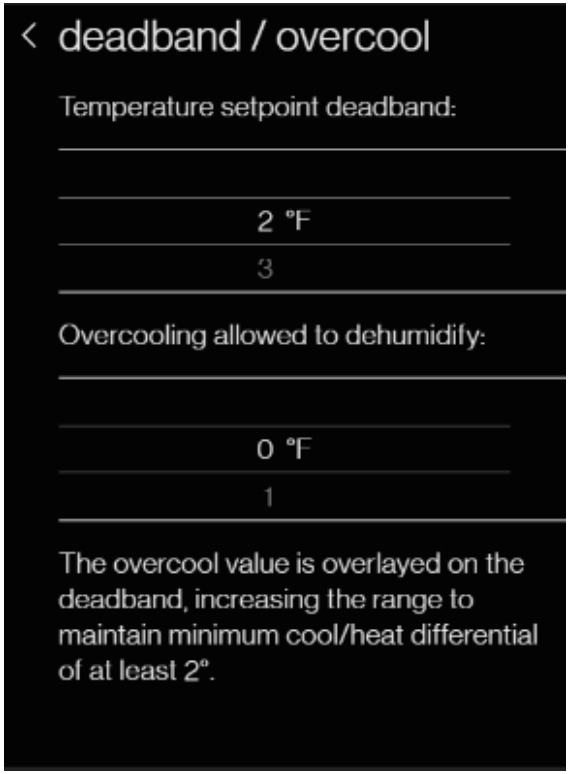
Full Set-up

Step 5 - Preferences

Cool/heat:

- Min/max set points in 1°F increments:
  - heating: 57 to 86
  - cooling: 64 to 90
- Deadband
  - Differential between cooling and heating set point in auto mode.
    - Default: 4°
    - 2°F to 9°F in 1°F increments
- Overcool
    - Default: 0°
      - 0°F to 3°F in 1°F increments





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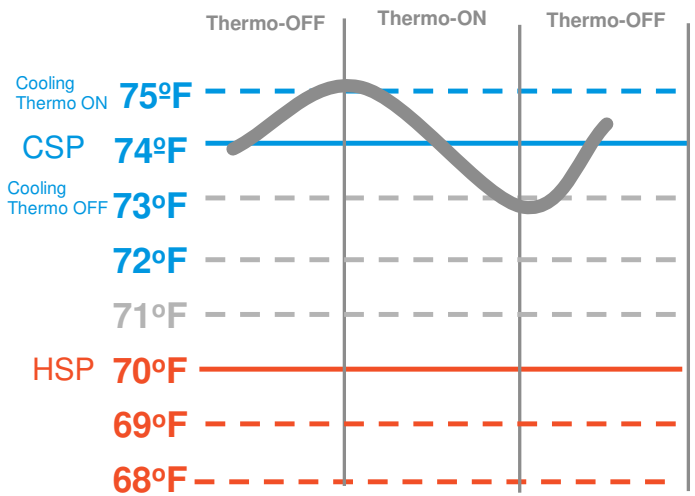
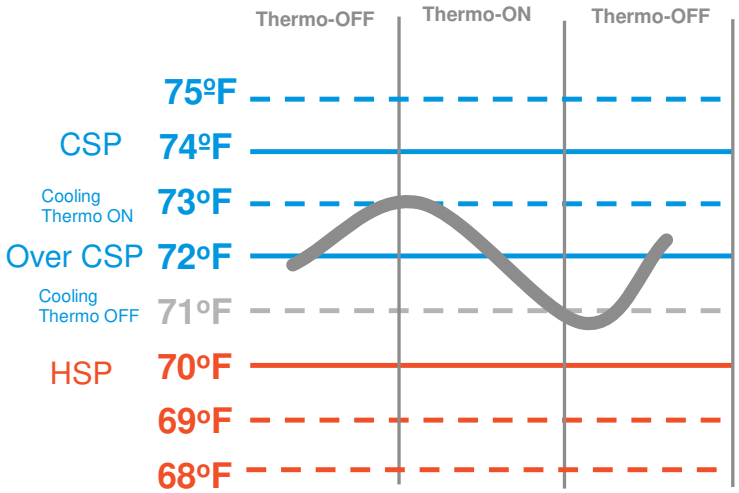
Overcool Example

- The Thermo-ON/OFF deadband is a fixed value (± 1°F) for mini and multi split indoor unit.

- Thermo-ON/OFF when Overcool =0
  - CSP is the cooling setpoint that assigned by the user and displayed on the Daikin *One+*



- Thermo-ON/OFF when Overcool =2
  - Over CSP is internally calculated and is not displayed on the Daikin *One+*



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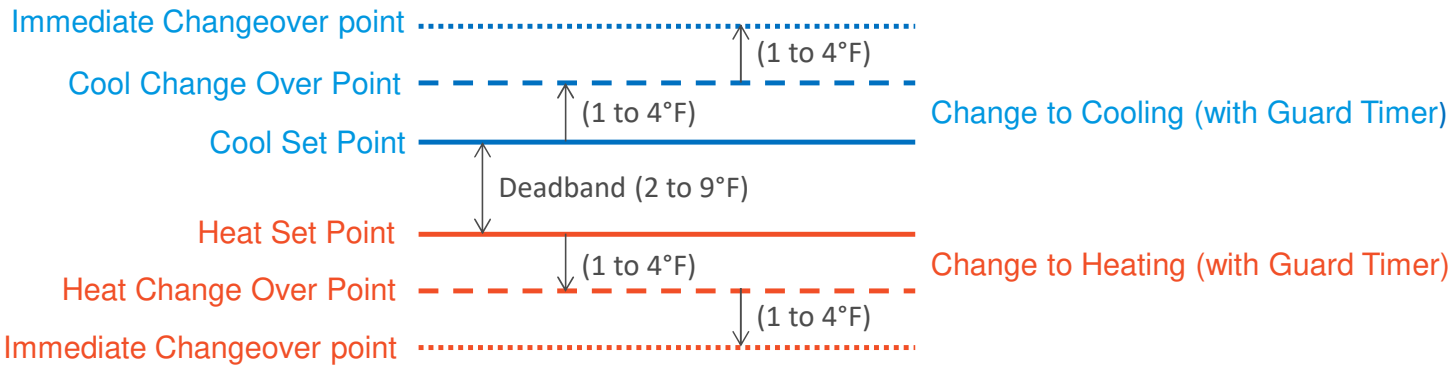
Full Set-up

Step 5 - Preferences

- Auto changeover methods:
  - At 1°F above cool or 1°F below heat setpoint (default)(Configurable between 1°F – 4°F.)
    - Engages changeover timer (guard timer).
  - Another 1°F above cooling or 1°F below heating changeover points(C-COP/H-COP)(default), immediate changeover ignores changeover timer (Configurable between 1°F – 4°F.)
    - Changeover timer to prevent frequent mode change.
      - 0 (default),15, 30, 45 or 60 minutes.
- **Recommend leaving the default settings**.



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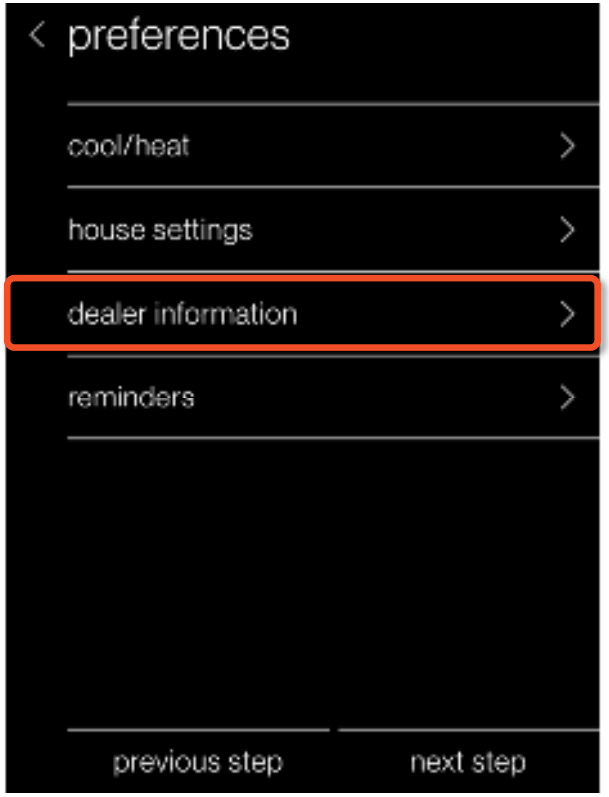
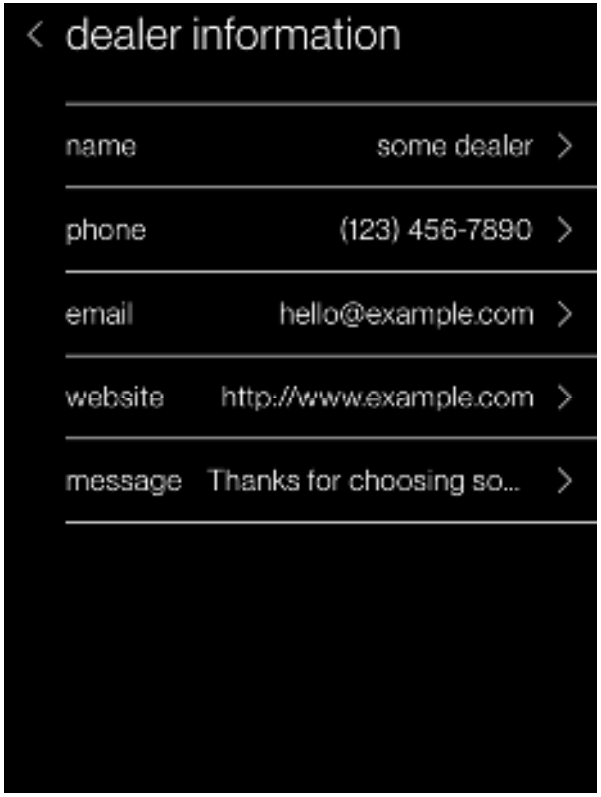
Full Set-up

Dealer information

- Selecting allows you to enter and review the dealer's information.
- All the information imputed can be viewed by the homeowner.





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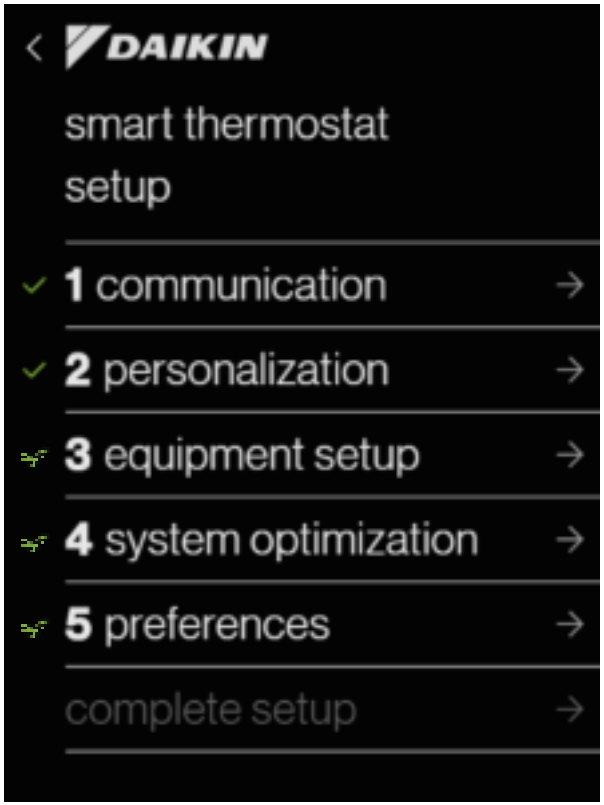
Full Set-up

Final step - Complete set-up

- Selecting complete set-up will conclude the full set-up of the thermostat and display normal mode for you to navigate and verify settings.

Reminder: All steps must be reviewed before completing full set-up.



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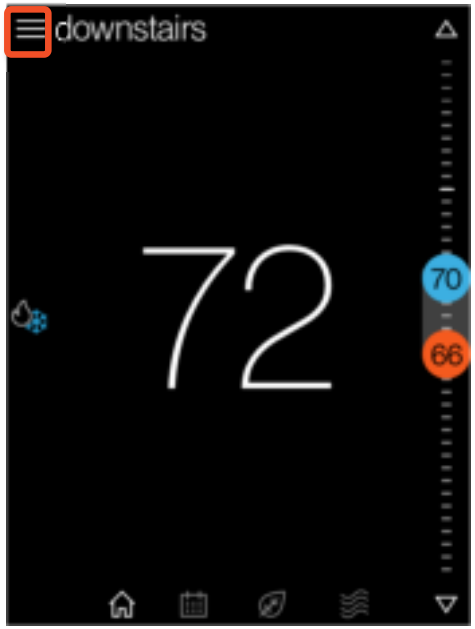
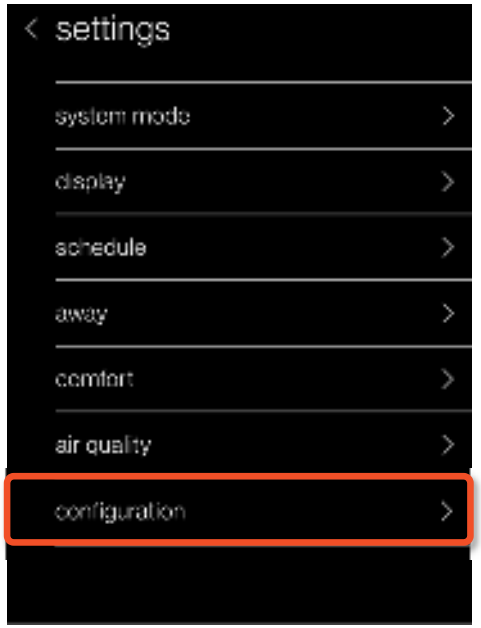
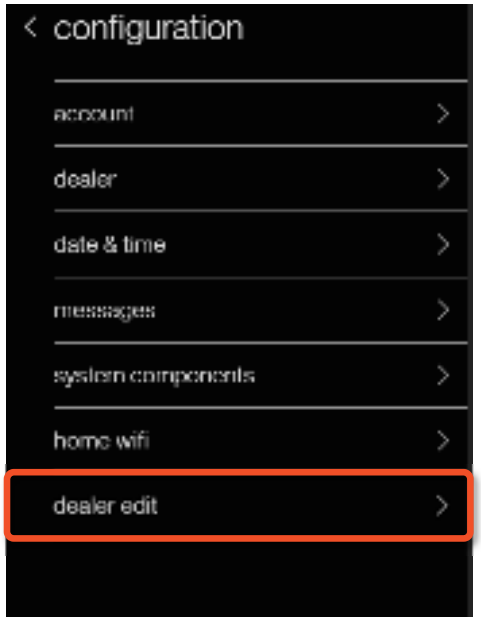
Dealer Navigation

Dealer edit

- Navigating to **dealer edit** will allow you to access or revisit the installer set-up screen.
- Advanced adjustments to the Daikin *One+* will be made here.







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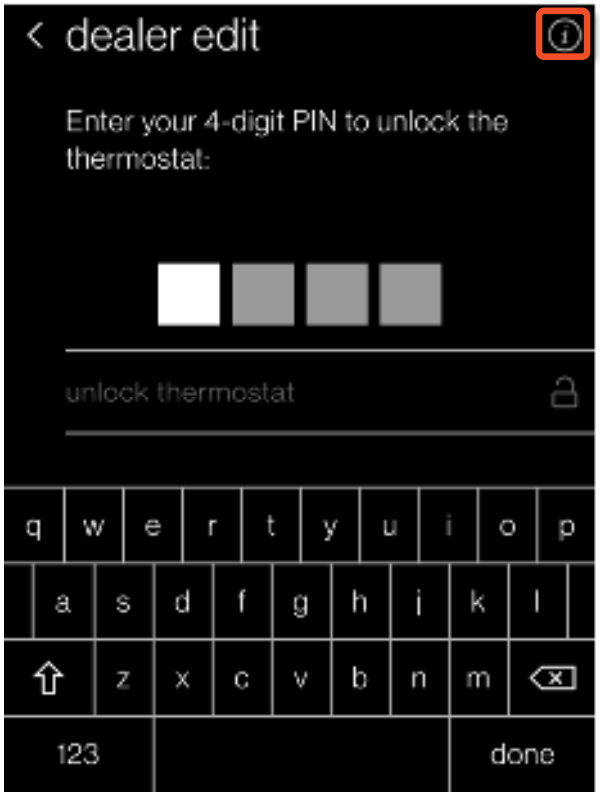
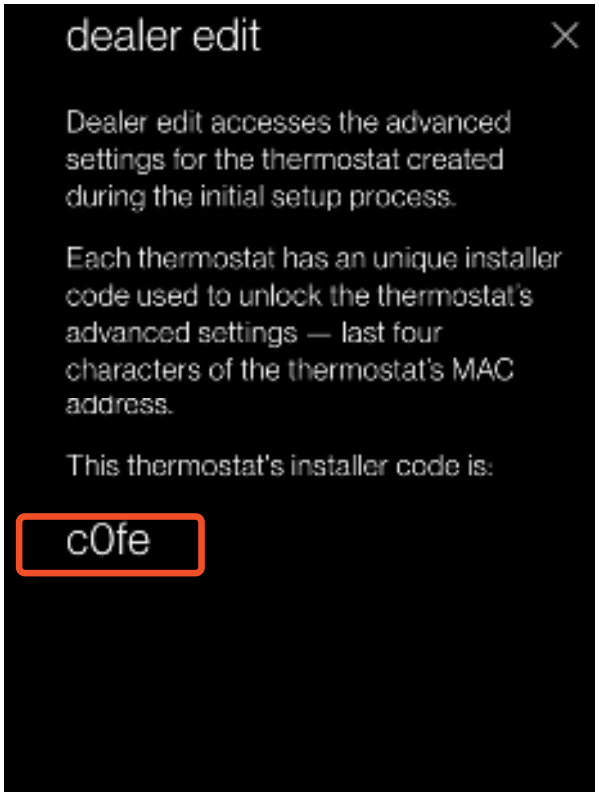
Dealer Navigation

- Acknowledging the prompt enables you to tap the learn more icon.
- The icon displays the installer code, giving you access to the installer set-up screens.





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Agenda

- Daikin *One+*
- System Configurations
- Installing Daikin *One+*
- Commissioning Daikin *One+*
- Full Set-up
- Dealer Navigation
- **Homeowner Navigation**
- Mobile Apps

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Homeowner Navigation

Normal Mode

- Normal mode allows you to view messaging, temperature, and access settings to adjust parameters placed by the installer.
- Navigating is accomplished by tapping icons or turning the analog dial.
- **Note:** Analog turn dial is used to adjust **temperature only**. Pressing the dial returns to the home screen.

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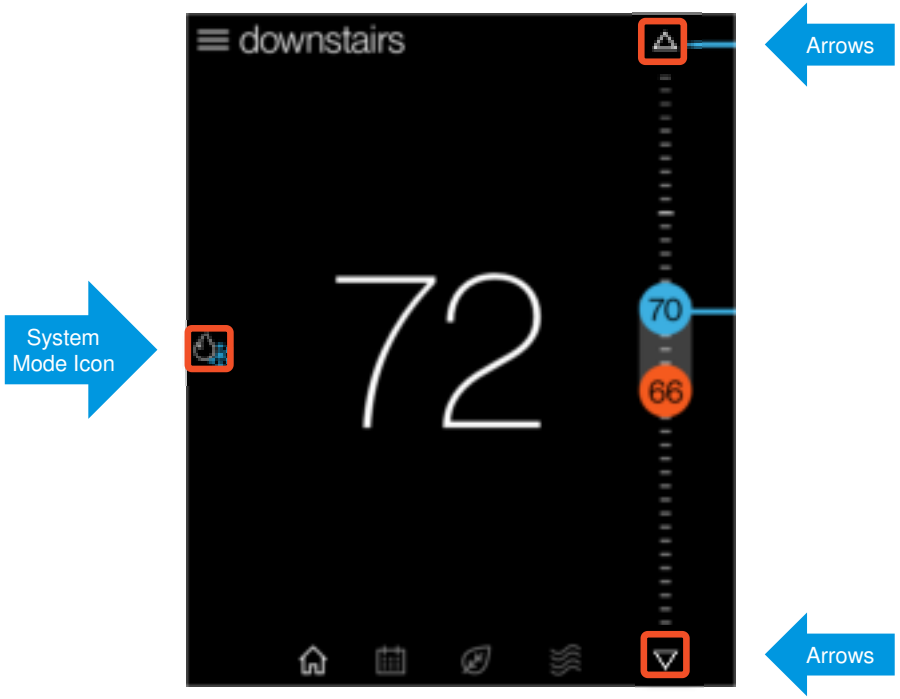
Homeowner Navigation

Adjust control

- Tapping the system mode icon allows you to select:
  - Auto. (cool & heat)
  - Cool.
  - Heat.
  - Off.
  - Emergency heat. (heat pump only)
- Tapping the arrow icons or rotating the dial will adjust setpoints that are displayed. You can also slide the setpoints to the desired temperature.



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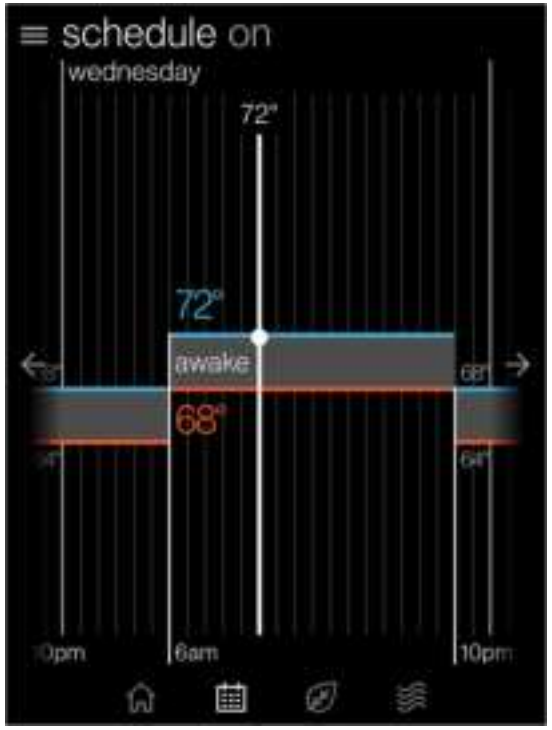
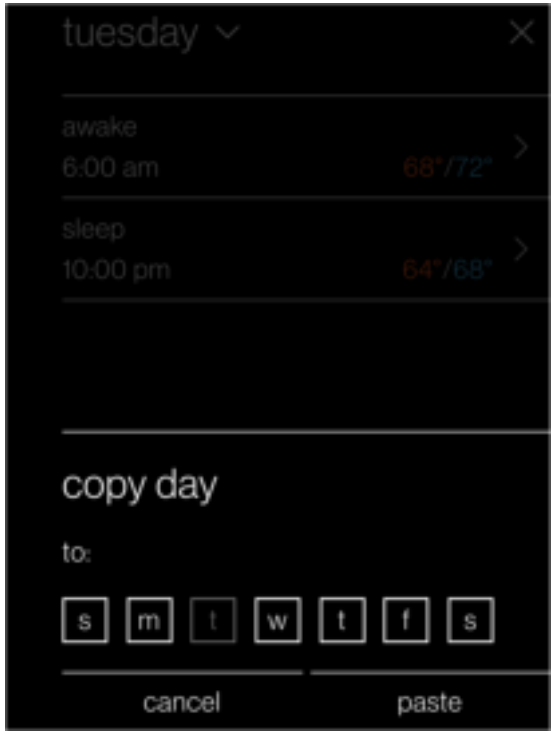
Homeowner Navigation

Schedule

- The schedule is presented as **7** days, displaying one day at a time, with **24** hours fitting on the screen.
- You can use the drop-down menu or swipe to enable schedule editing.
- Copy and paste is a feature that makes scheduling seamless.

Note: Unlike other screens, scheduling requires saving edits before exiting the mode.





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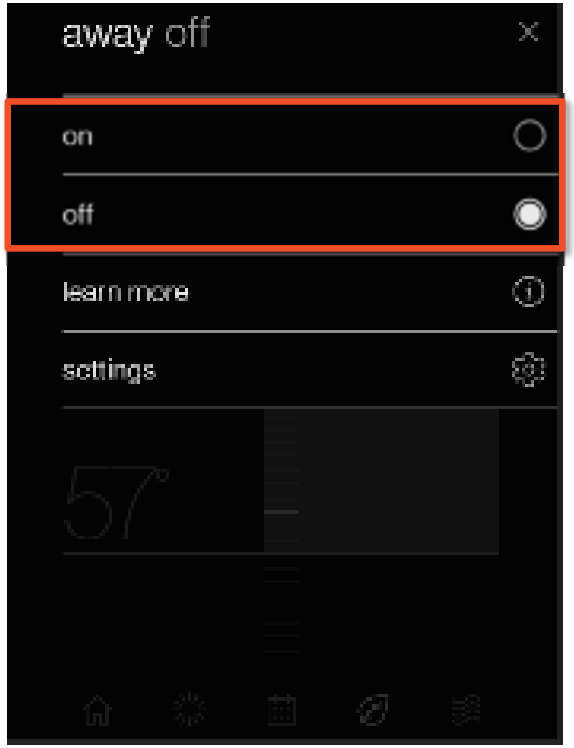
Homeowner Navigation

Away

- The away screen displays the current state (on/off) and the away cooling/heating setpoints used when away is on.
  - on/off is selected from drop down menu.
- User can change the values of the setpoints by dragging the numbers or the comfort range up and down.
- With the mobile application, enabling geo-fencing will automatically switch to away mode when **outside** the radius.
  - Settings must be configured in the mobile application.



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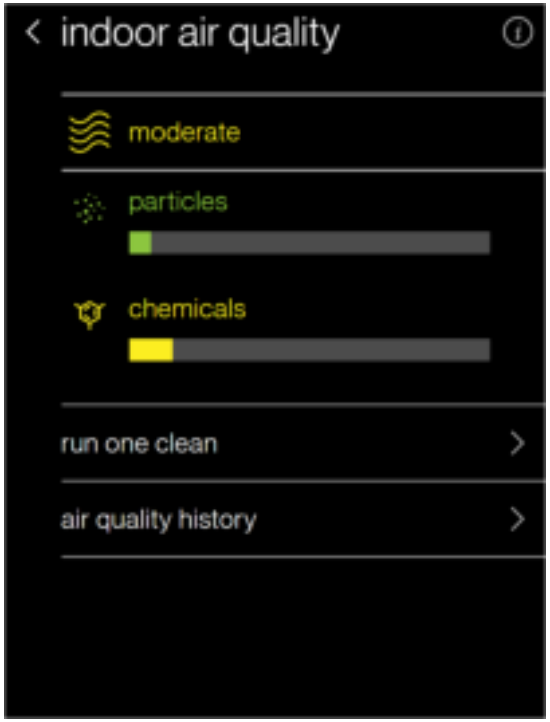
Homeowner Navigation

Air quality

- The air quality screen displays **indoor air** quality levels, **outdoor air** quality, and **weather** (when connected to the internet and paired with the app.)
- If air quality sensors **are not** installed, indoor air quality is based on filter life cycle and humidity values.
- Selecting indoor air quality from the air quality screen allows you to access **one clean and air quality history**.
  - **One clean** runs the fan, at high speed for three hours, to circulate and filter the indoor air.



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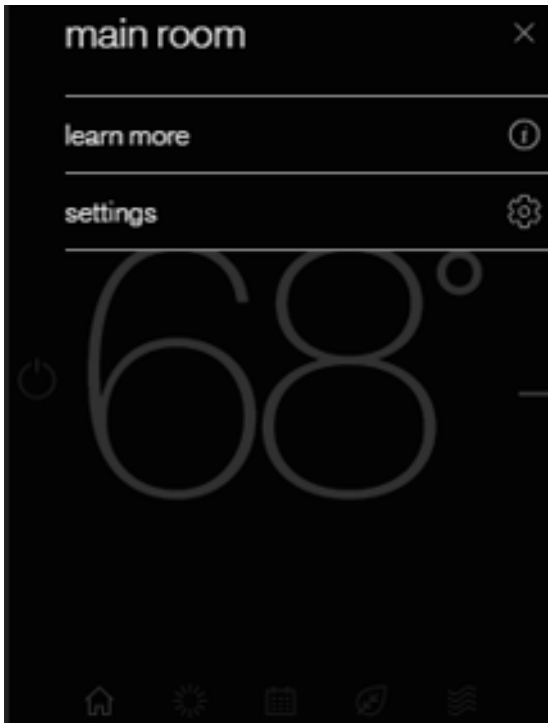
Homeowner Navigation

Settings

- Settings gives you access to additional supporting features:
  - Display.
    - Adjust and enable visual features.
  - Comfort.
    - Set target humidity.
  - Configuration.
    - App. account setup
    - Dealer information
    - Date & Time
    - Enable messages/view alerts
    - System components
    - Home Wi-Fi



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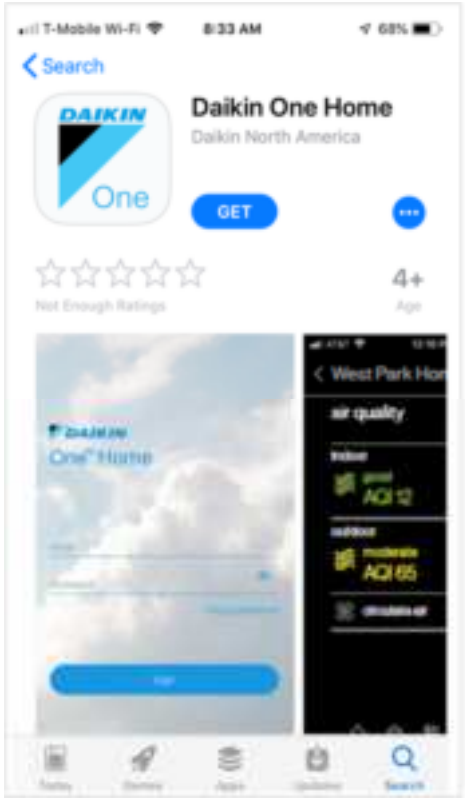
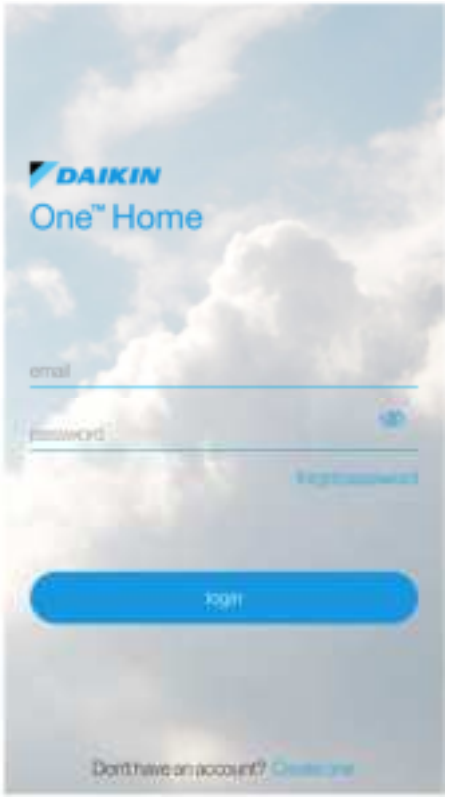
Mobile Apps

Account set-up

- Setting up an account is a four-step process.
  1. Downloading the application from your IOS or Android application store.
     - Creating the account.
  2. Confirming your account.
  3. Adding the thermostats' location.
  4. Connecting the app to the thermostat.

Note: A **mobile device**, the **Daikin *One+*** connected to **Wi-Fi** that is wired to an **S21 system** and a valid **email address** is needed to create a mobile account.





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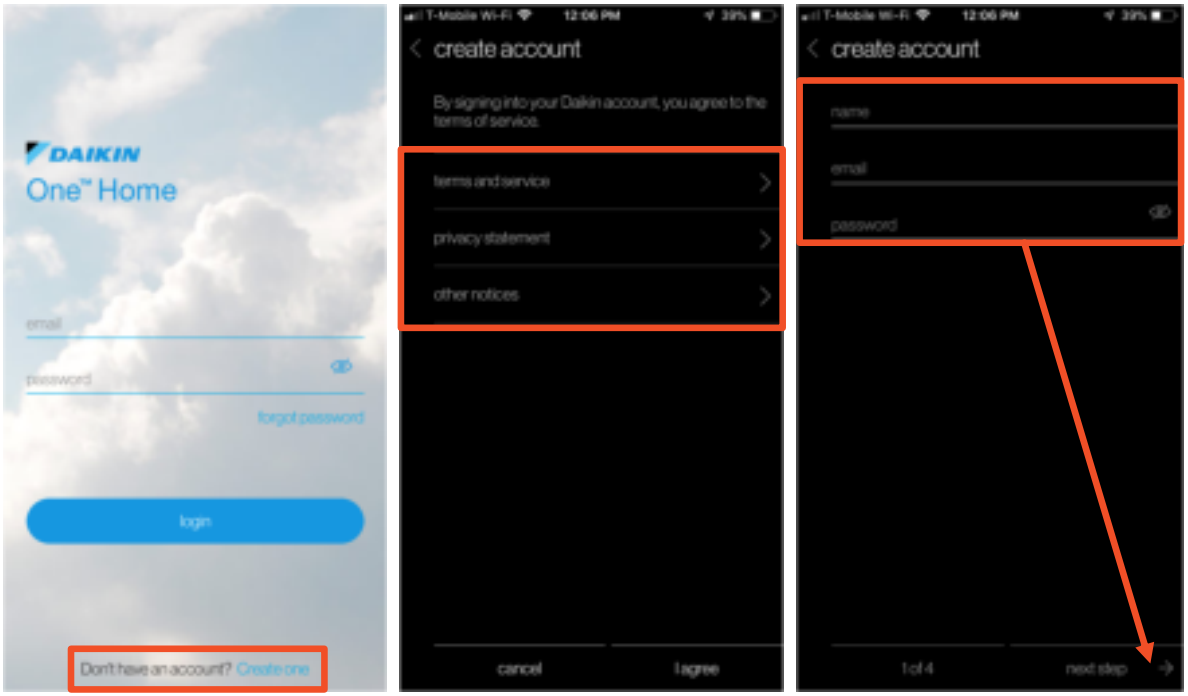
Mobile Apps

Step 1 - Create the account

- Tapping **create one** at the bottom right corner of the login screen will start the process.
- **Before** agreeing, read the terms and service, privacy statement, and other notices.
- Fill in your name, valid email address, and password.



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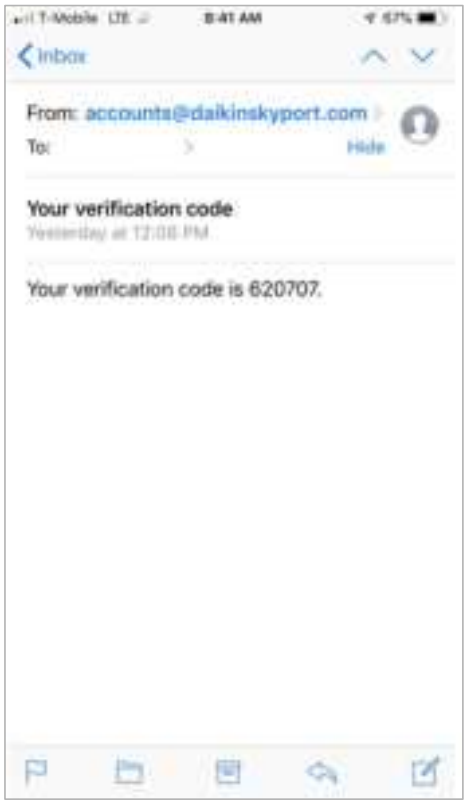
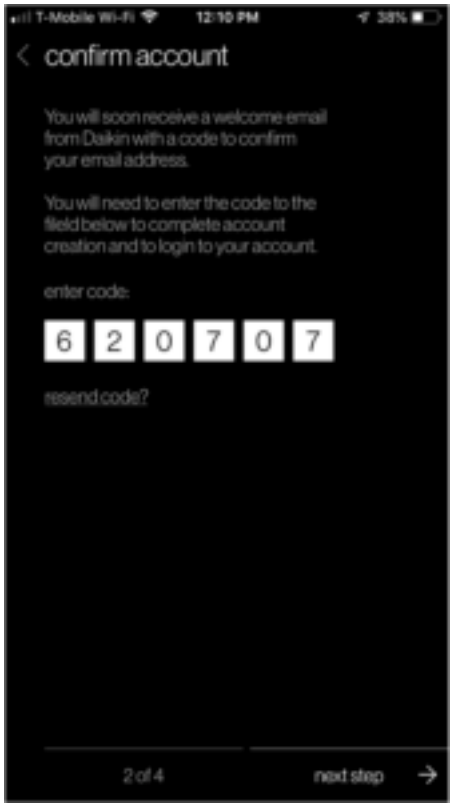
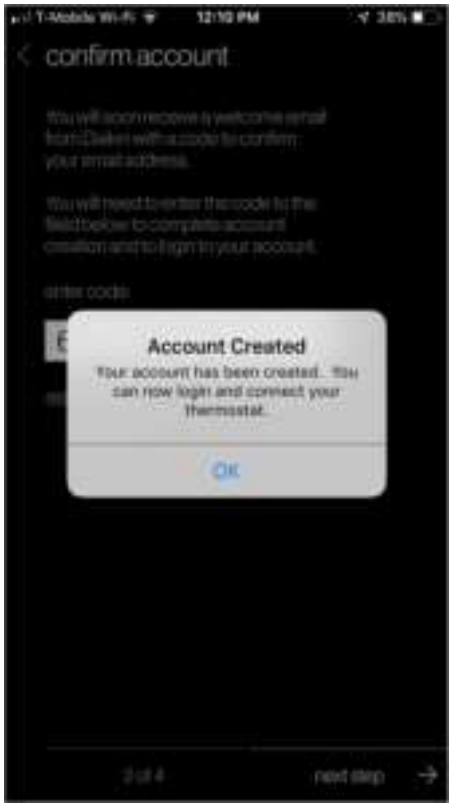
Mobile Apps

Step 2 - Confirming the account

- You will be prompted to access the **email address** you provided when creating the account.
- A welcome email will appear in your inbox providing a **six-digit** code.
- Entering the six-digit code on your phone app. will allow you to continue.







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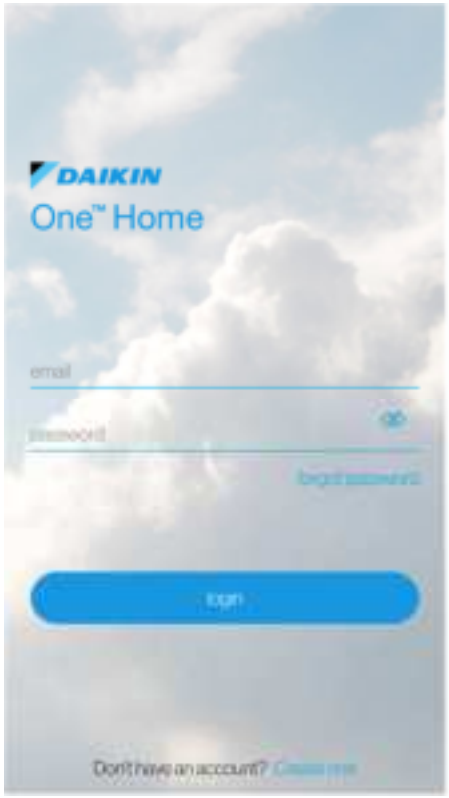
Mobile Apps

Step 3 - Adding the thermostats location

- Enter the email and password associated to your mobile account and tap the login button.
  - If you have forgotten your password, tap the forgot password link to recover information via email.
- Type the address of where the thermostat is located to gather accurate information.



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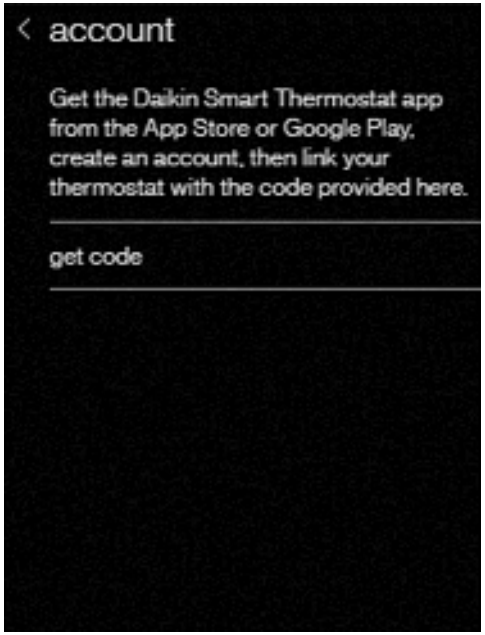
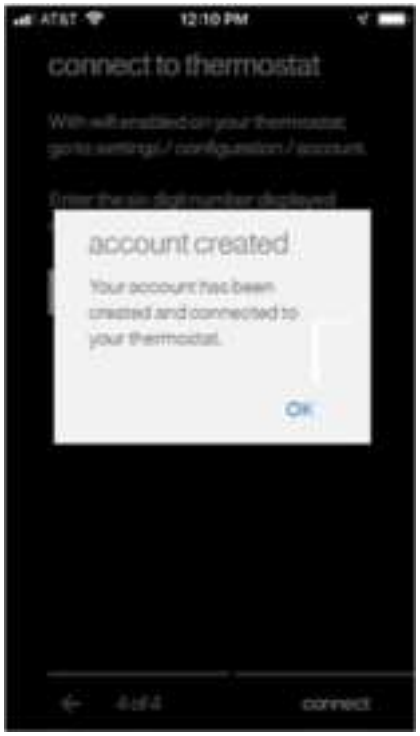
Mobile Apps

Step 4 - Connecting the App to the thermostat

- With wifi enabled on your thermostat, access your account to retrieve the six-digit code.
- Type the six-digit code displayed on your thermostat into the space provided on the mobile app.
- Tap connect to continue and operate the Daikin *One+* from your mobile device.





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Mobile Apps

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