

Daikin One+ Smart Thermostat Installation & Commissioning (S21)



Technical Training Module TRC-4



Disclaimer

This material provides technical information that is to only be used by appropriately trained and certified HVAC-R installers and technicians who have agreed to the terms and conditions available here at <https://www.daikincity.com/DaikinCityB2BTermsOfUse.html>. If you have not agreed to these terms and conditions, you may not use or view this material, and you assume responsibility for any injury or property, system or equipment damage which may result. If you have agreed to these terms, you also agree, by viewing or using this material, that this material, by its nature, cannot include a discussion of everything necessary to effect a proper installation or repair of HVAC-R equipment, nor can it address every possible scenario or environment a technician or installer may encounter. Accordingly, this material should not be considered as recommendations for best practices and will not be considered installation or repair instructions to the extent of any conflict with Daikin- or Goodman-issued manuals and specifications, or industry standards and regulations. Each installer or technician remains fully responsible for ensuring proper installation or repair of the HVAC-R equipment being worked on, and you remain fully responsible for any injury or property, system or equipment damage which may result from your installation. ©2021 Daikin, all rights reserved; recording, copying, or distribution of this material is prohibited without express written permission from Daikin.

Agenda

Daikin *One+*

System Configurations

Installing Daikin *One+*

Commissioning Daikin *One+*

Full Set-up

Dealer Navigation

Homeowner Navigation

Mobile Apps

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.



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.



Daikin *One+* Smart Thermostat

Daikin *One+* Interface

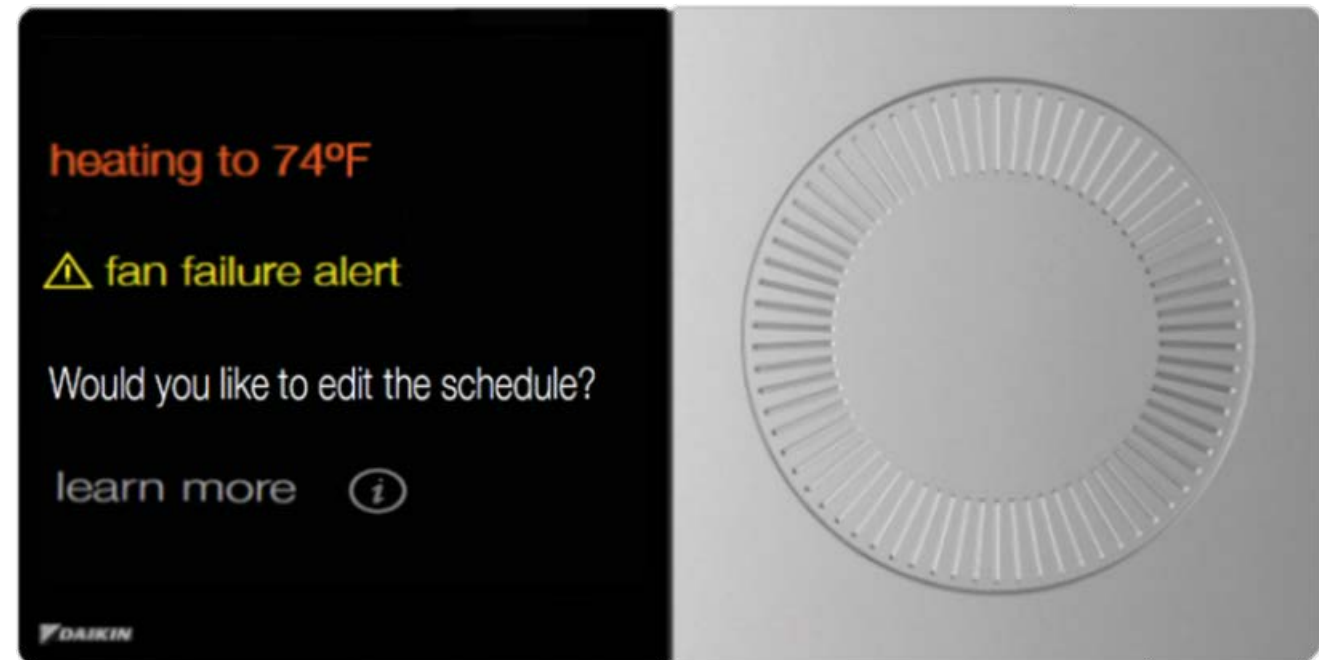
- The thermostat has a physical dial on the right used for manual setpoints adjustments.
- Pressing the center of the dial at any time during normal mode acts as a home button, displaying the primary screen.
- The high-resolution touch screen on the left supports tactile-based interactions.
- Navigating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



Messaging

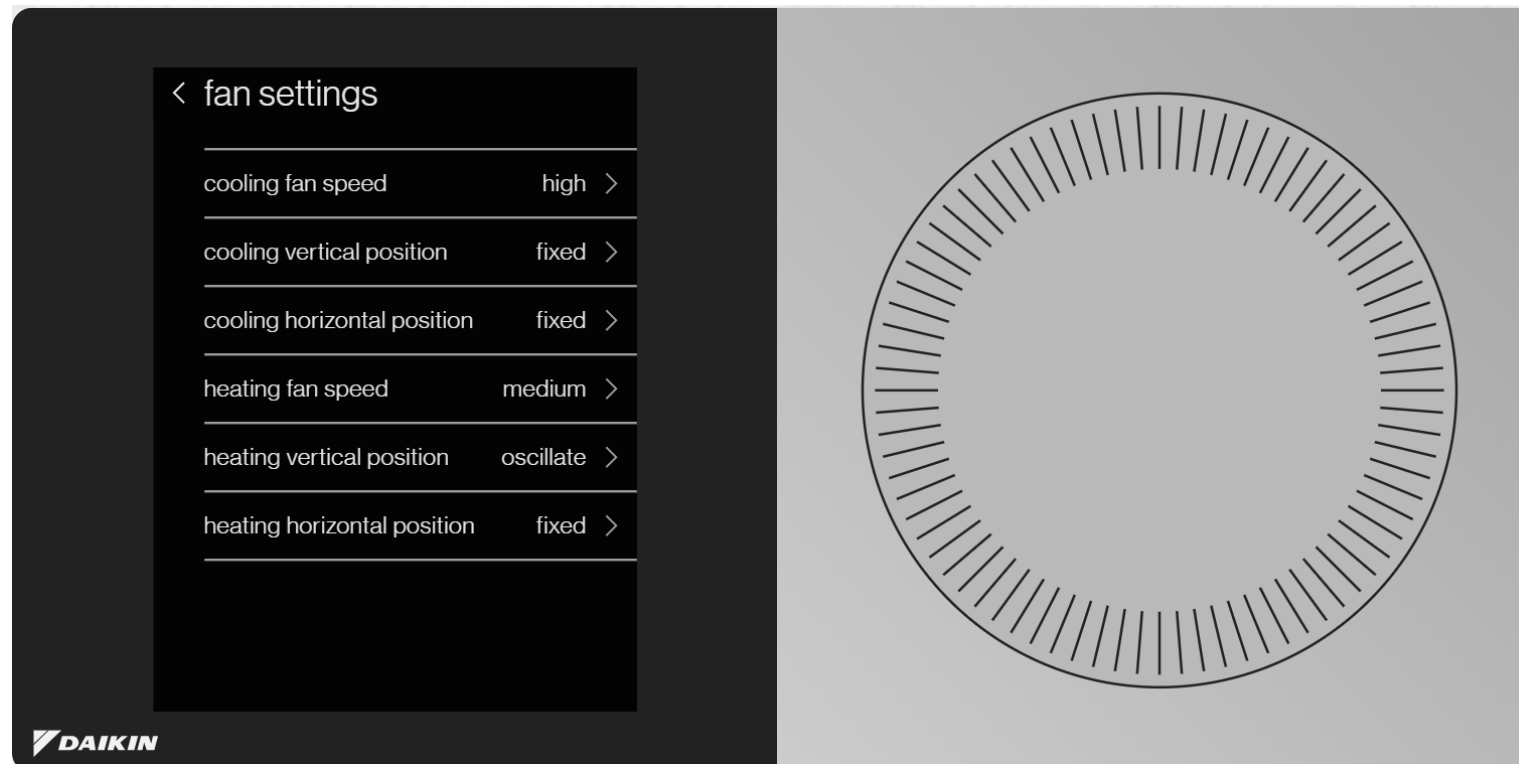
- Daikin One's messaging updates, confirms, and informs about selections you make during set-up and operation.
- There are four types of messages:
 - Status
 - Alerts
 - Reminders and Prompts
 - Learn more/tips

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



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.



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.

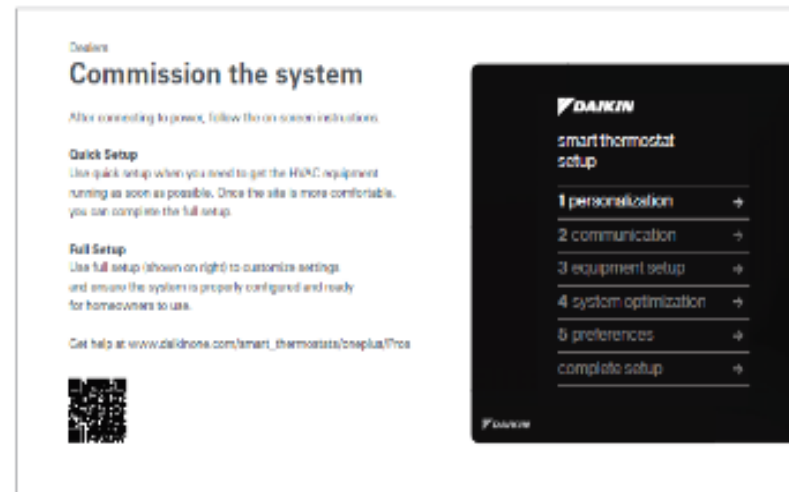
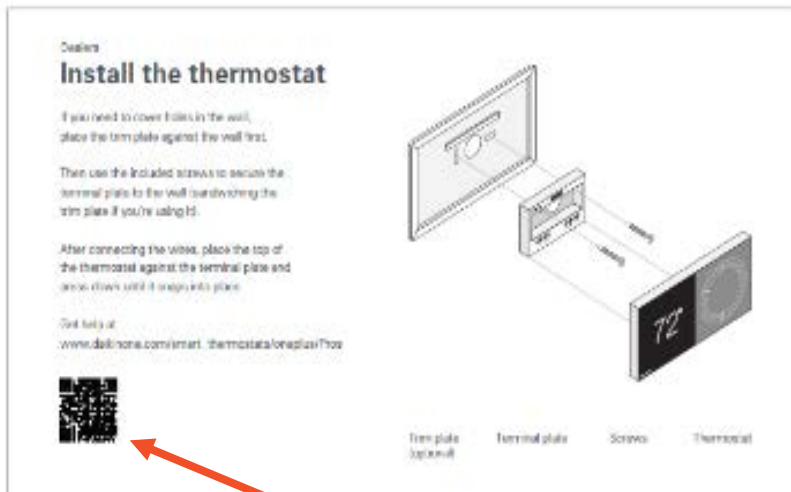


Daikin One+ Smart Thermostat

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/

Agenda

Daikin *One+*

System Configurations

Installing Daikin *One+*

Commissioning Daikin *One+*

Full Set-up

Dealer Navigation

Homeowner Navigation

Mobile Apps

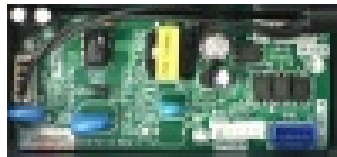
Daikin One+ Smart Thermostat for S21 Indoor Units

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



■ Click to add text

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

Agenda

Daikin *One+*

System Configurations

Installing Daikin *One+*

Commissioning Daikin *One+*

Full Set-up

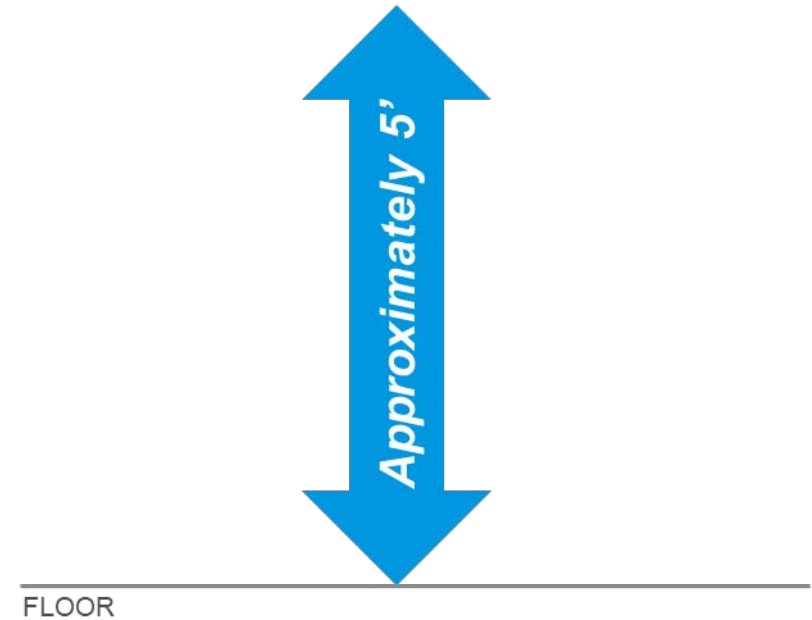
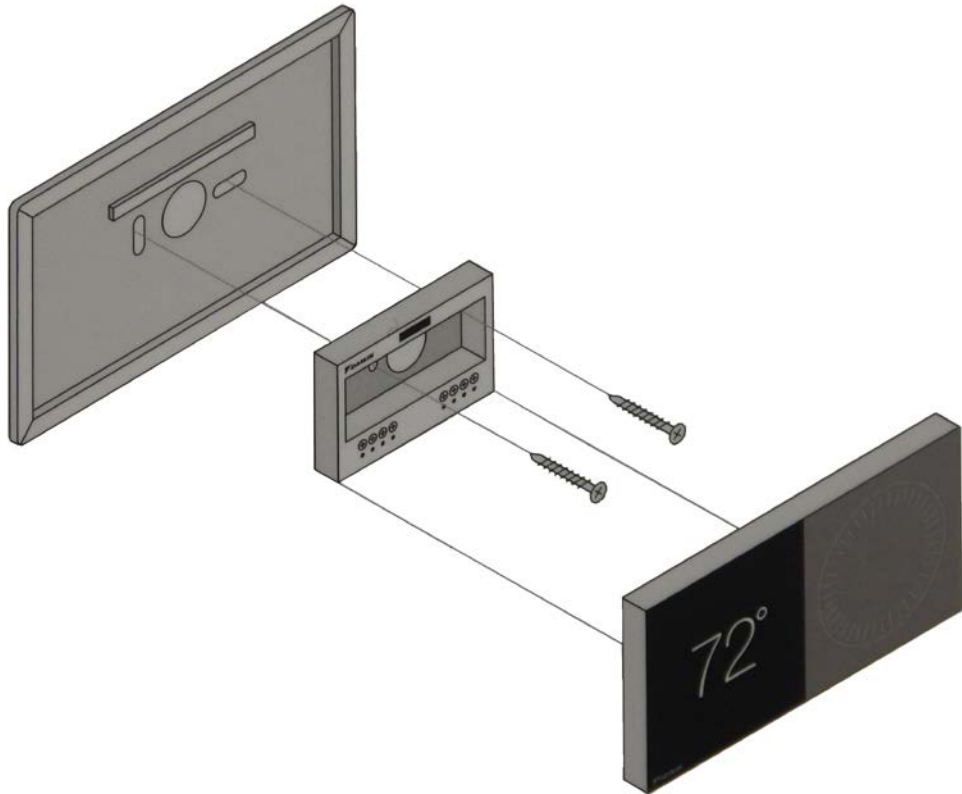
Dealer Navigation

Homeowner Navigation

Mobile Apps

Installing Daikin *One+* Smart Thermostat

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



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.

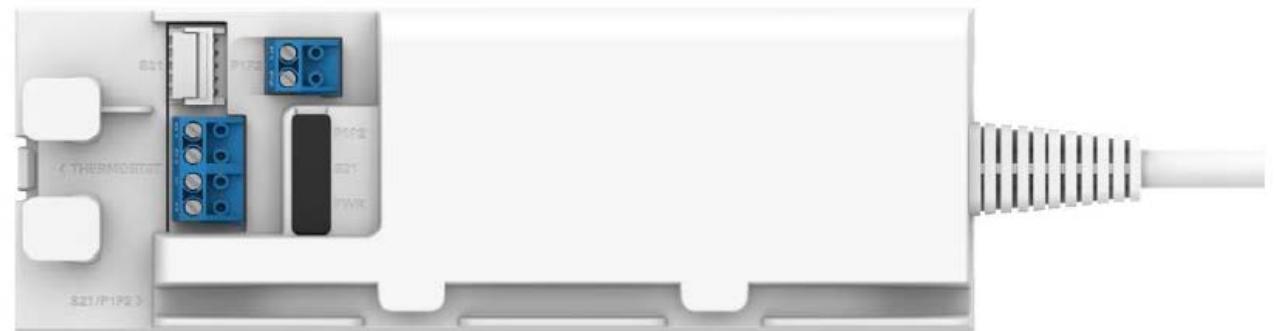
Note: If wired incorrectly, you will receive an error.

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



- ① Data Line 1
- ② Data Line 2
- Ⓒ 24 volt common
- Ⓓ 24 volt power

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



Installing Daikin *One+* Smart Thermostat

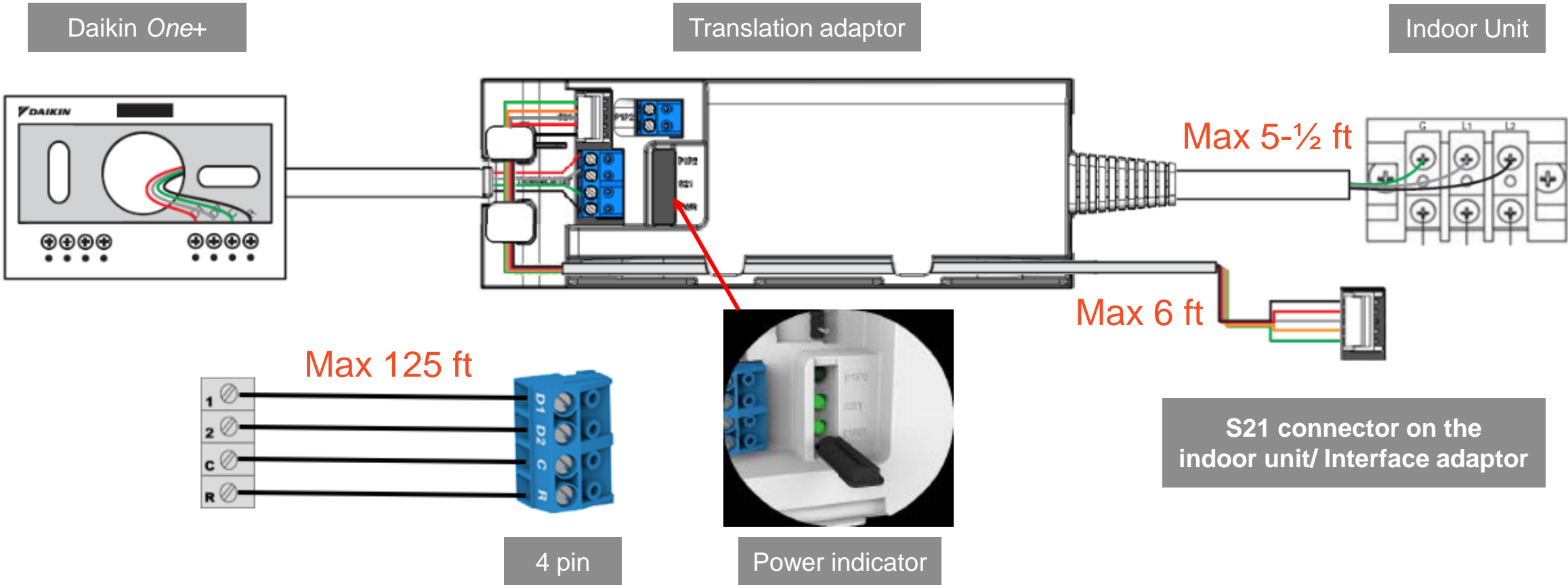
DO NOT Install The Thermostat Where It Can Be Affected By:

- 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.



Installing Daikin One+ Smart Thermostat

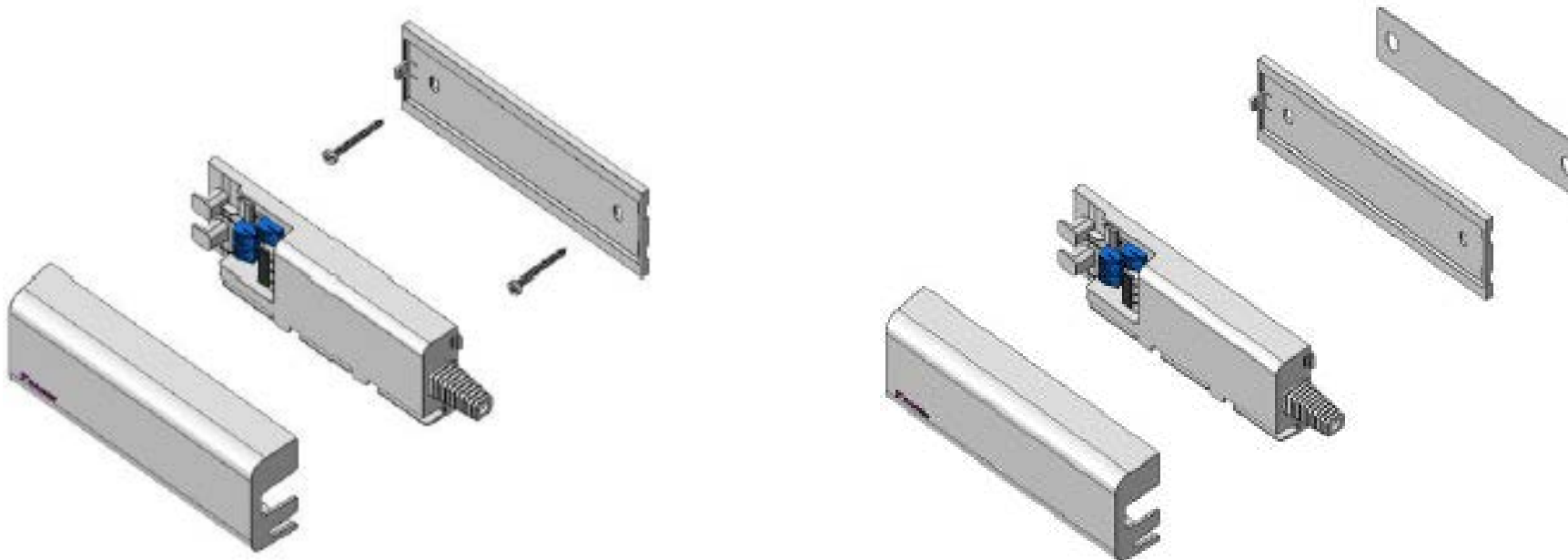
Wiring thermostat to a translation adaptor



Installing Translation Adaptor

Mounting the translation adaptor.

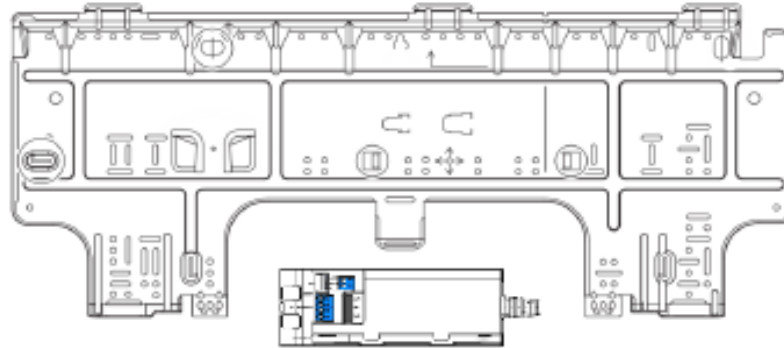
- Mount using screws or adhesive tape.
 - Never use screws to mount to an indoor unit.
 - If using adhesive tape, you can mount to the surface of the indoor unit.
 - Clean the surface prior to mounting.
 - Apply pressure for a minimum of 20 seconds to the adaptor for adhesion to take place.



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.



Agenda

Daikin *One+*

System Configurations

Installing Daikin *One+*

Commissioning Daikin *One+*

Full Set-up

Dealer Navigation

Homeowner Navigation

Mobile Apps

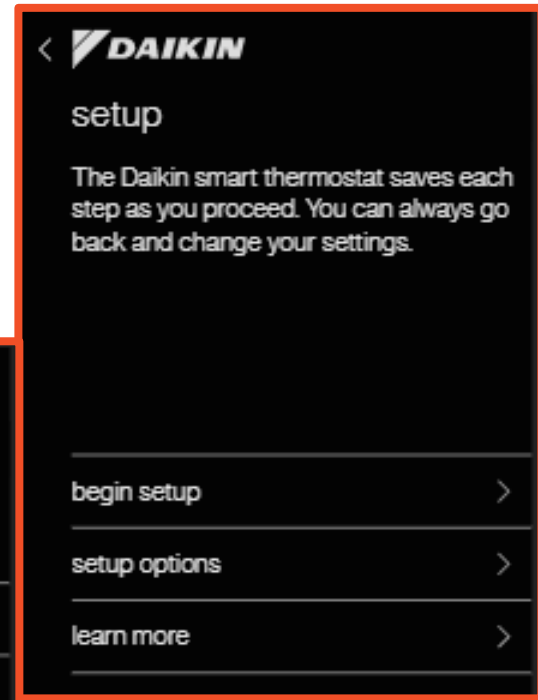
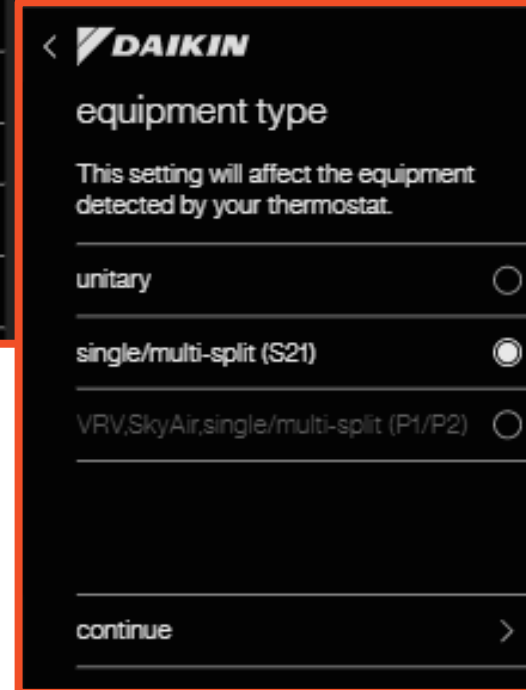
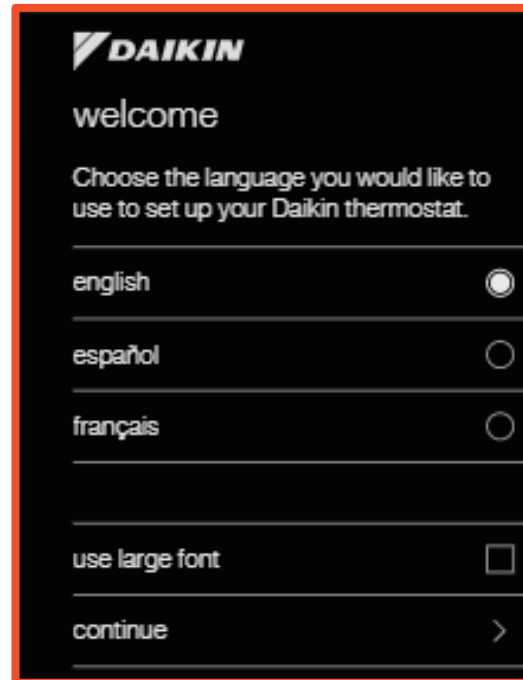
Commissioning Daikin *One+* Smart Thermostat

- 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.



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.



Agenda

Daikin *One+*

System Configurations

Installing Daikin *One+*

Commissioning Daikin *One+*

Full Set-up

Dealer Navigation

Homeowner Navigation

Mobile Apps

Start-up

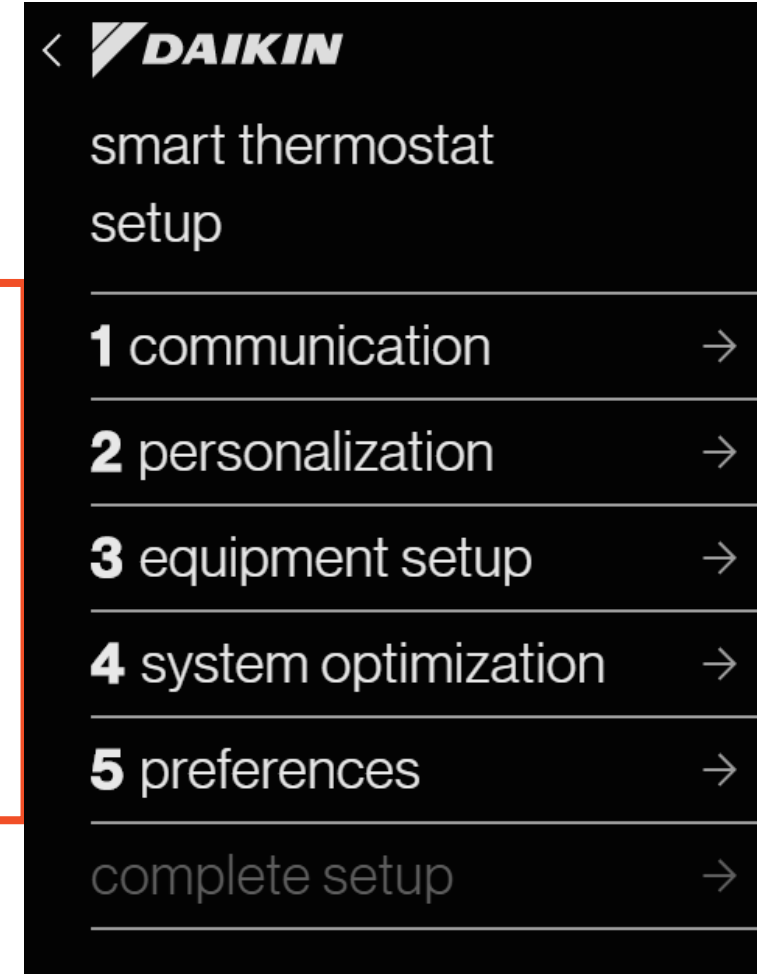
- **Tapping begin set-up starts the five step set-up process:**

- 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/



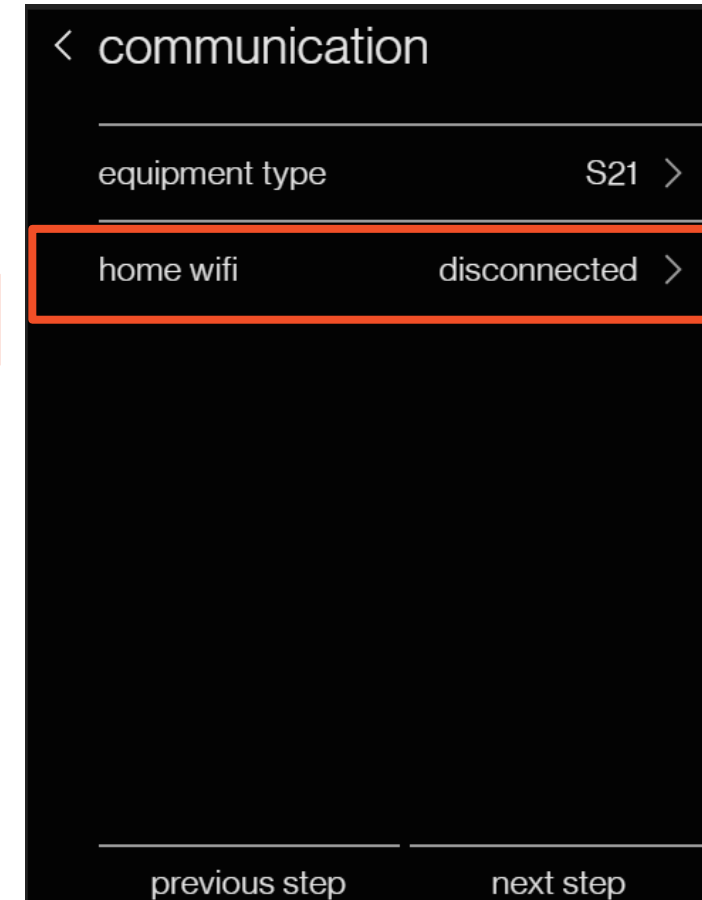
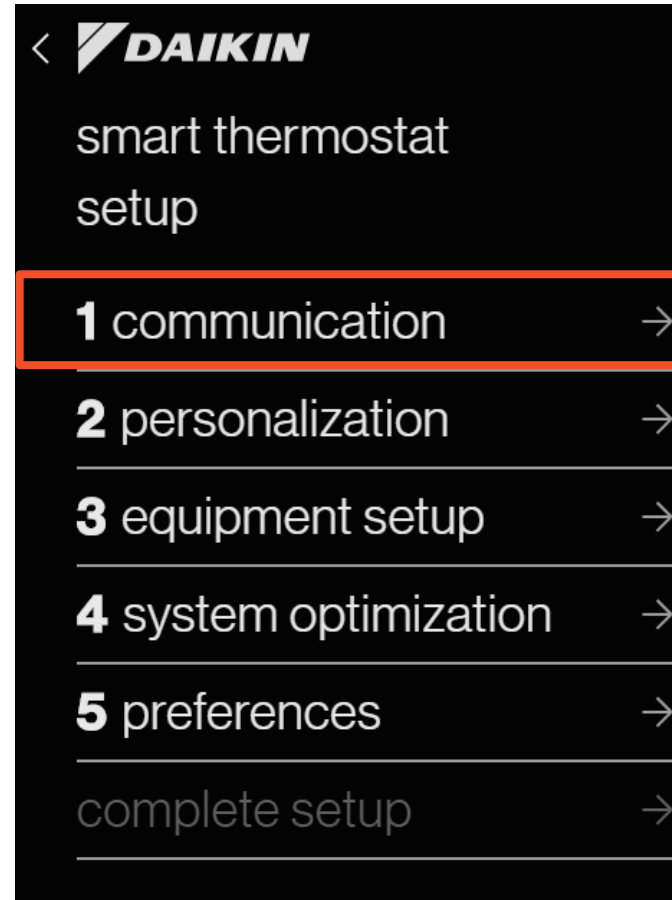
Full Set-up

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.

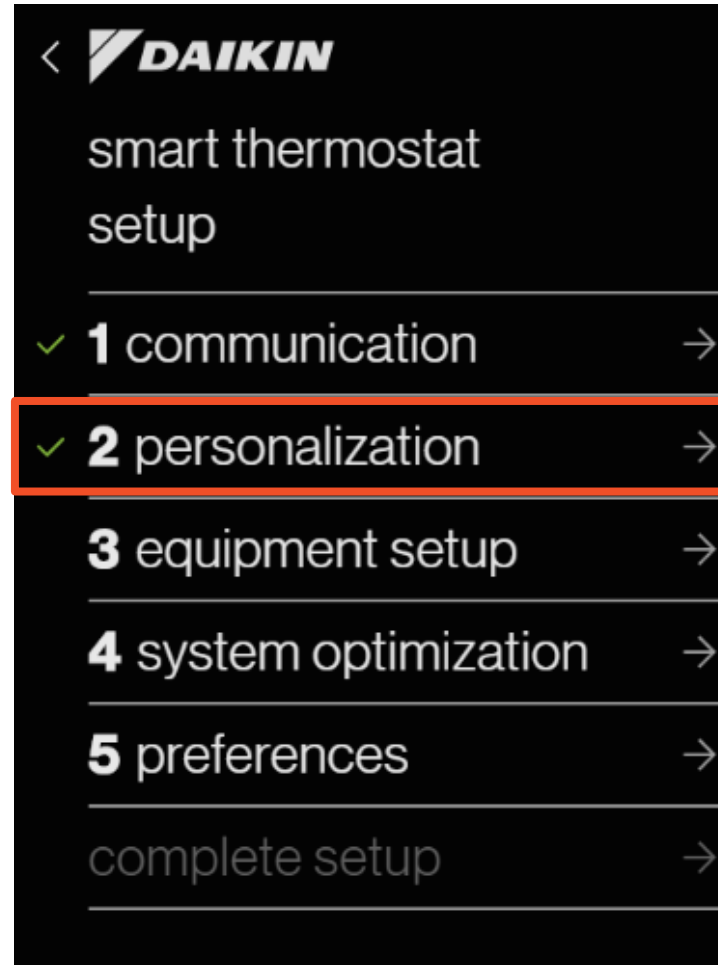


Full Set-up

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.

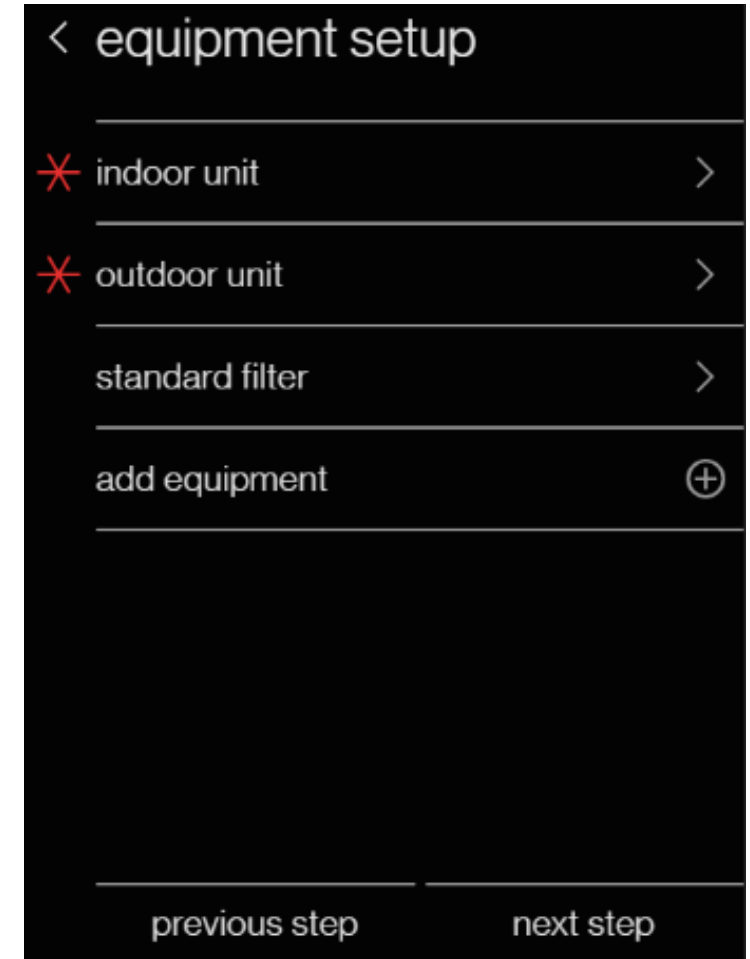
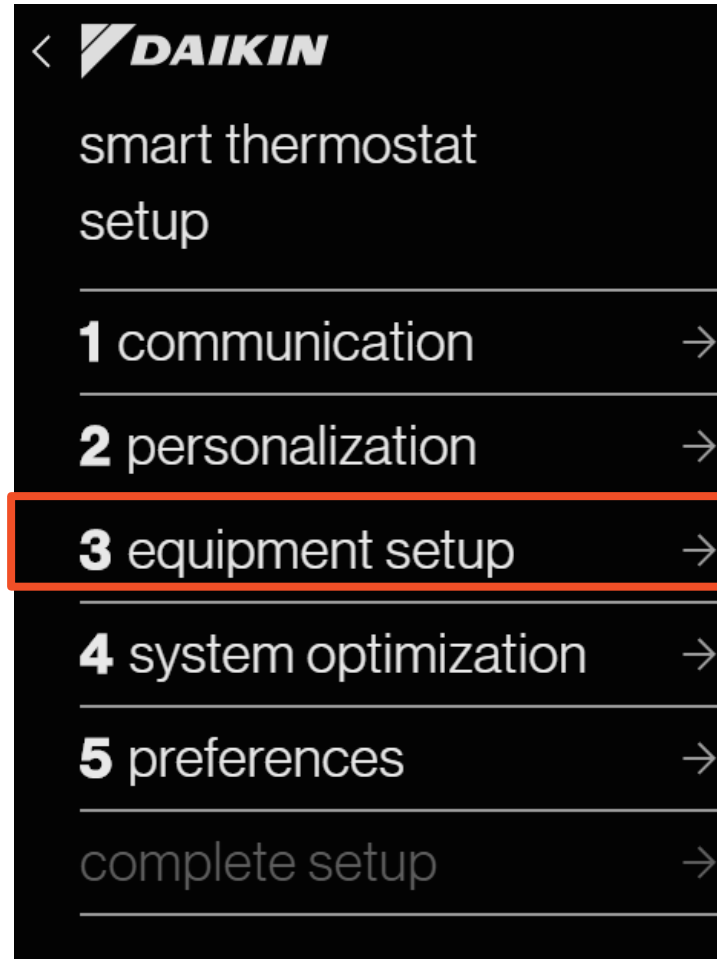
Note: A green check mark appears next to items reviewed from the set-up menu.



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.



Step 3 - Equipment Set-up

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

< equipment setup

✖ indoor unit >

✖ outdoor unit >

standard filter >

add equipment (+)

previous step

next step

< indoor unit

✖ model # >

serial # >

✖ unit type >

< serial #

1234

1	2	3	4	5	6	7	8	9
-	/	:	;	()	\$	&	@
#+=	.	.	?	!	'	<	>	
abc								d

< model #

CDXS >

CTXS >

FDXS >

FTK >

FTX >

TXG >

TXR >

TXV >

< unit type

wall-mount unit ☒

four-way ceiling cassette ☐

one-way blow cassette ☐

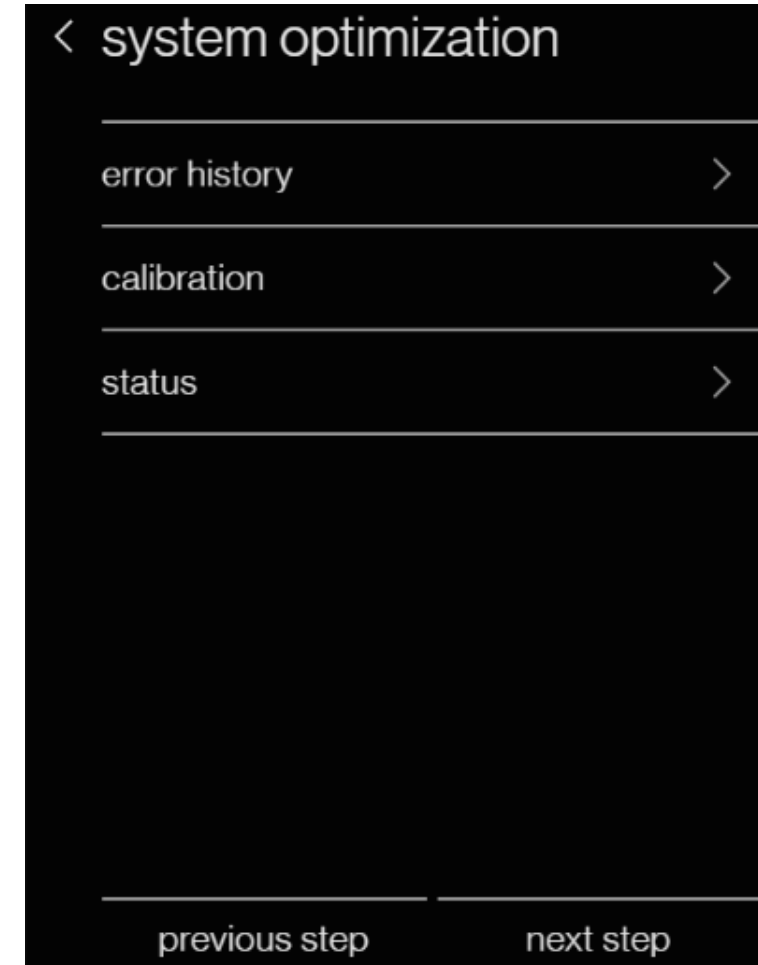
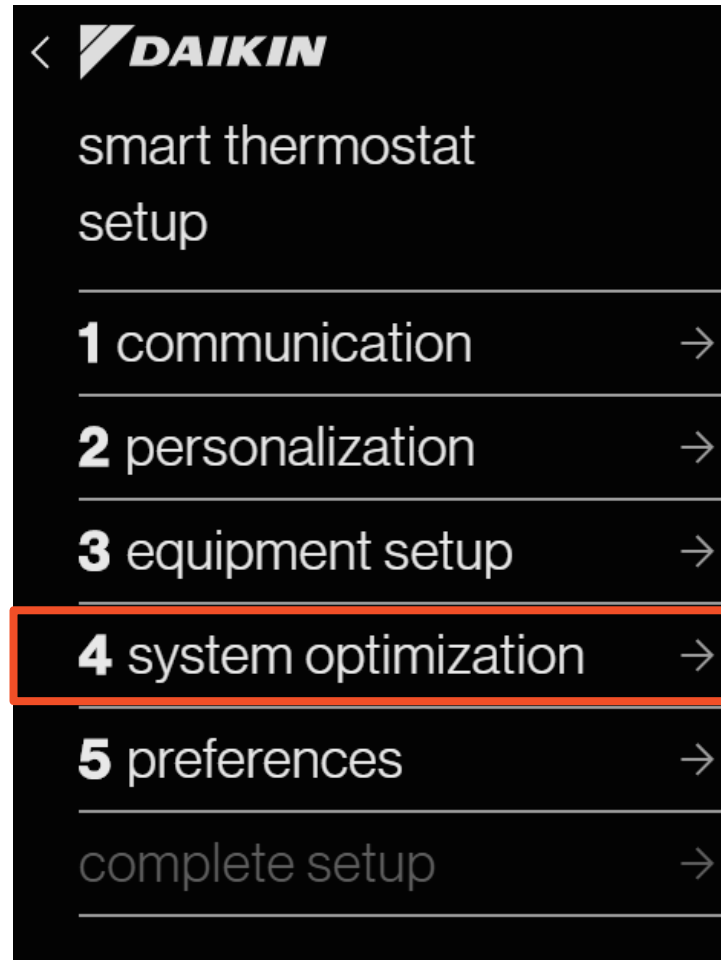
floor-mount unit ☐

concealed ducted unit ☐

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.



Full Set-up

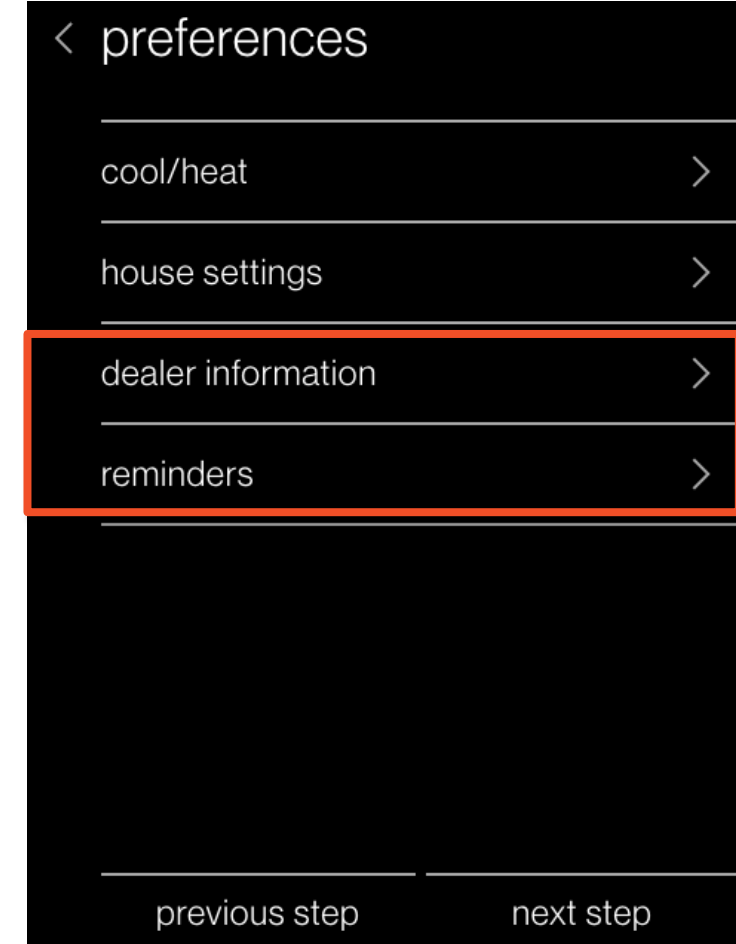
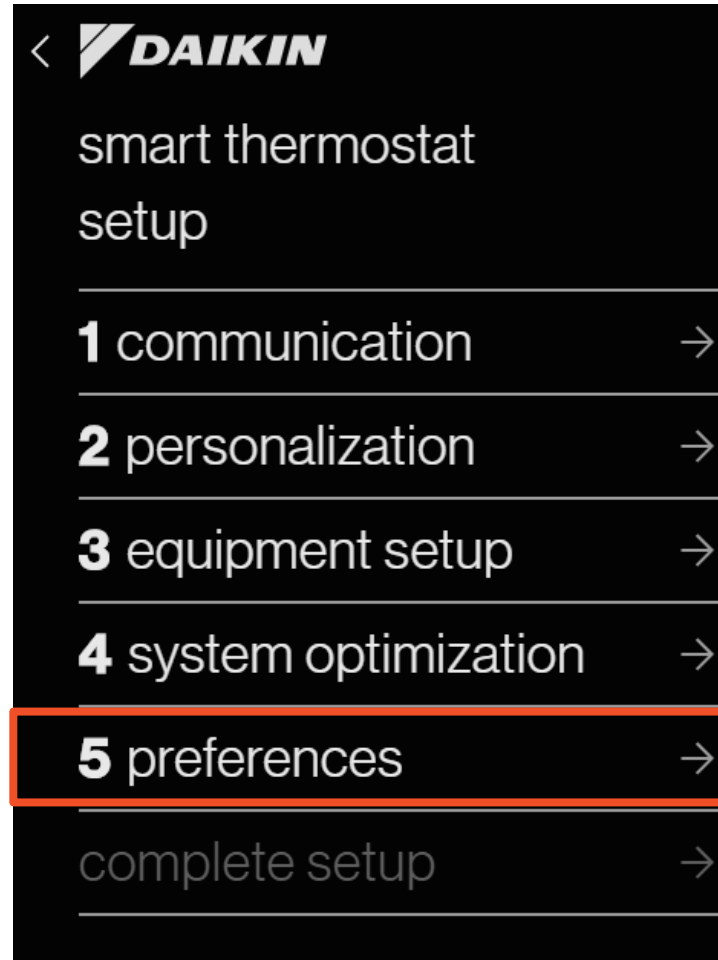
Step 5 - Preferences

- 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.

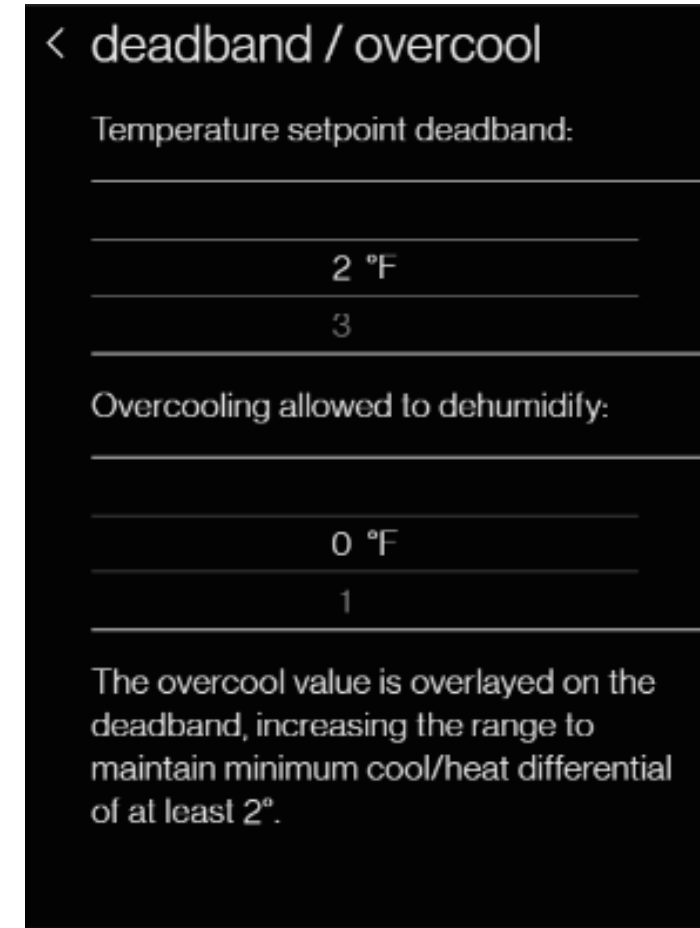
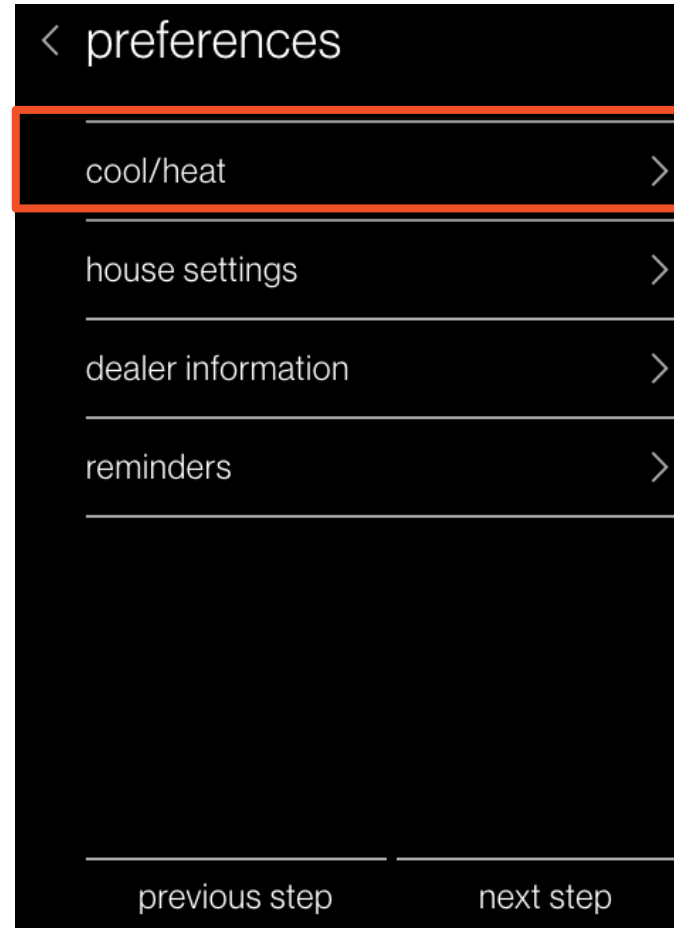


Full Set-up

Step 5 - Preferences

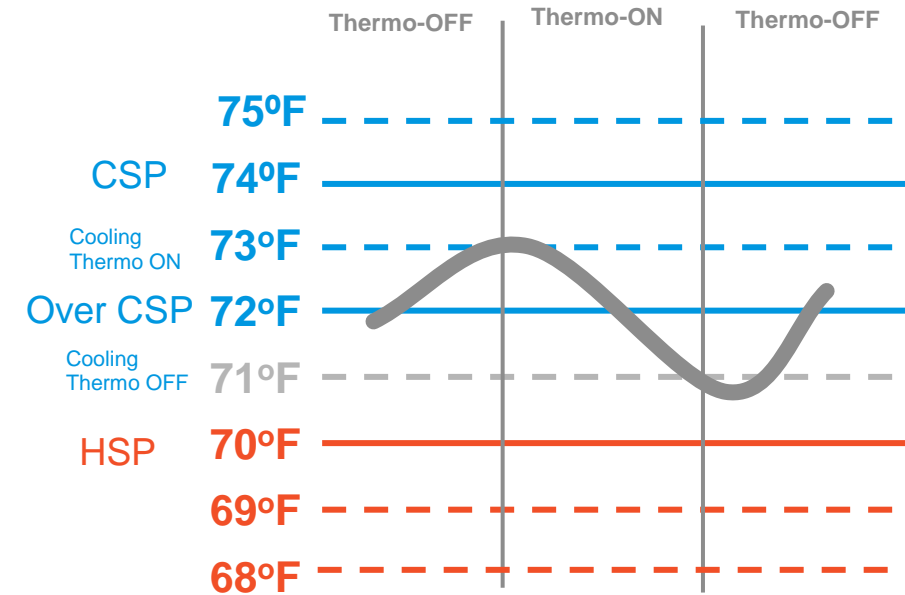
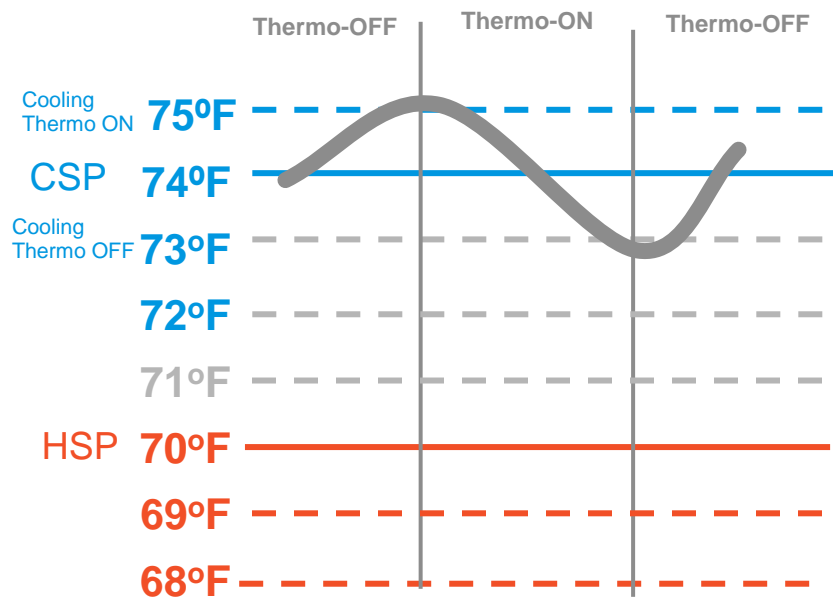
Cool/heat:

- 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



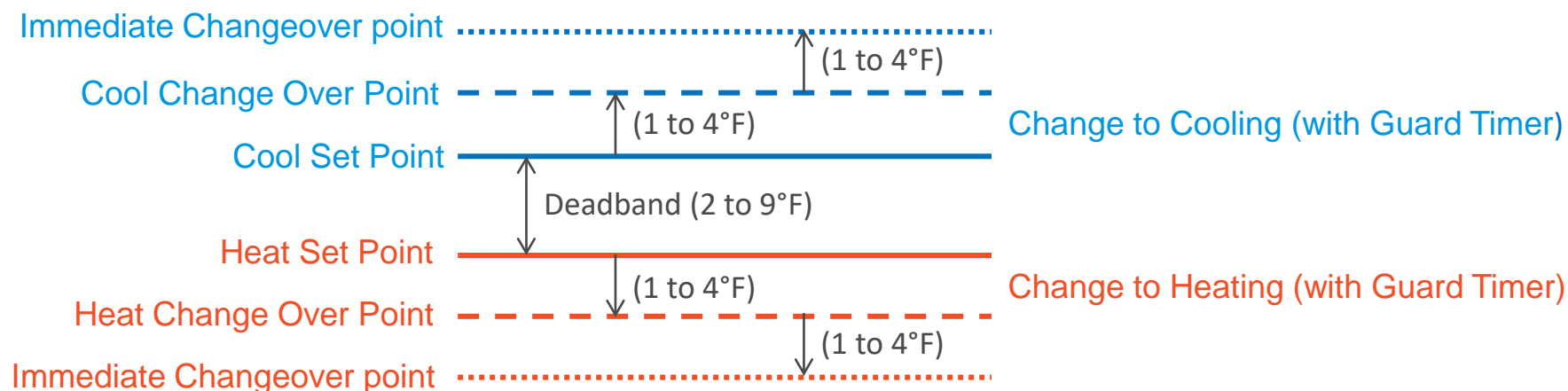
Overcool Example

- The Thermo-ON/OFF deadband is a fixed value ($\pm 1^{\circ}\text{F}$) 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+*



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.**



Dealer information

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

< preferences

cool/heat >

house settings >

dealer information >

reminders >

previous step

next step

< dealer information

name some dealer >

phone (123) 456-7890 >

email hello@example.com >

website http://www.example.com >

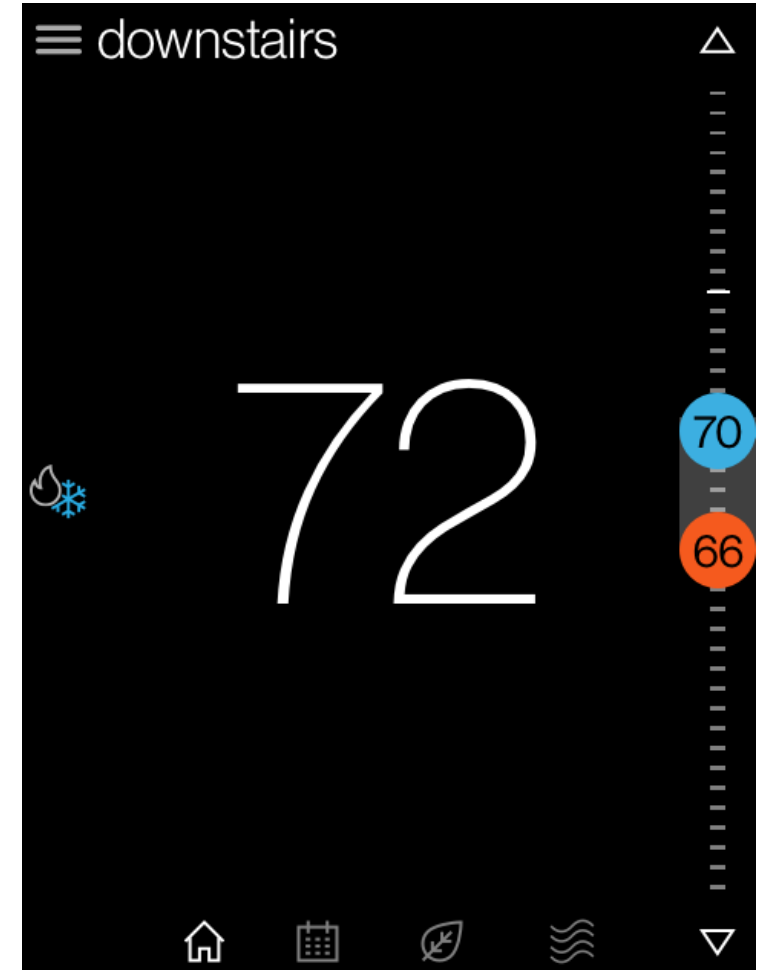
message Thanks for choosing so... >

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.



Agenda

Daikin *One+*

System Configurations

Installing Daikin *One+*

Commissioning Daikin *One+*

Full Set-up

Dealer Navigation

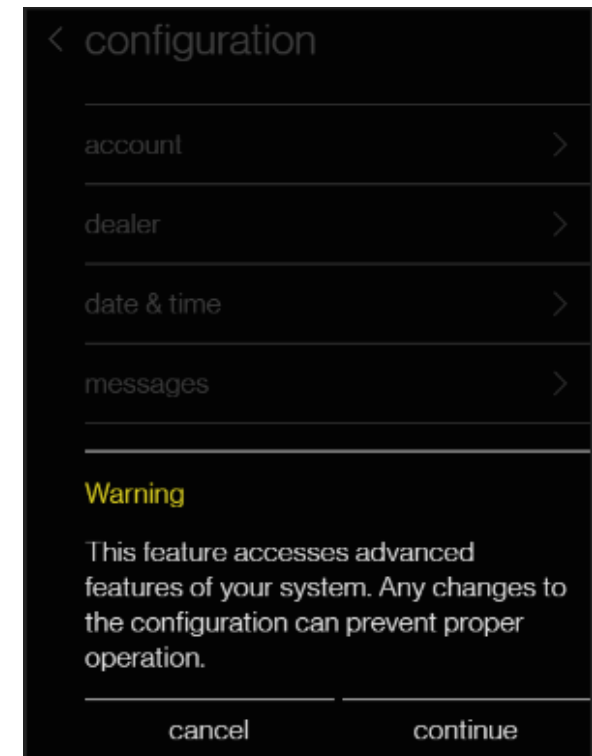
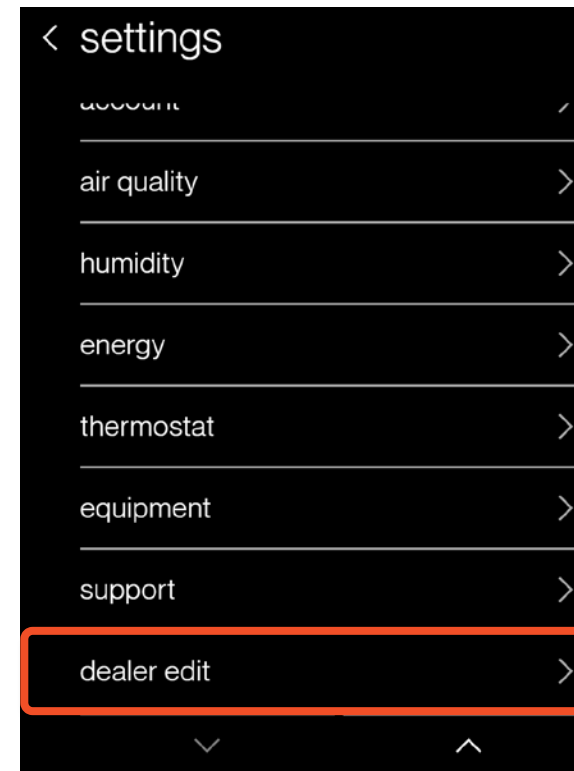
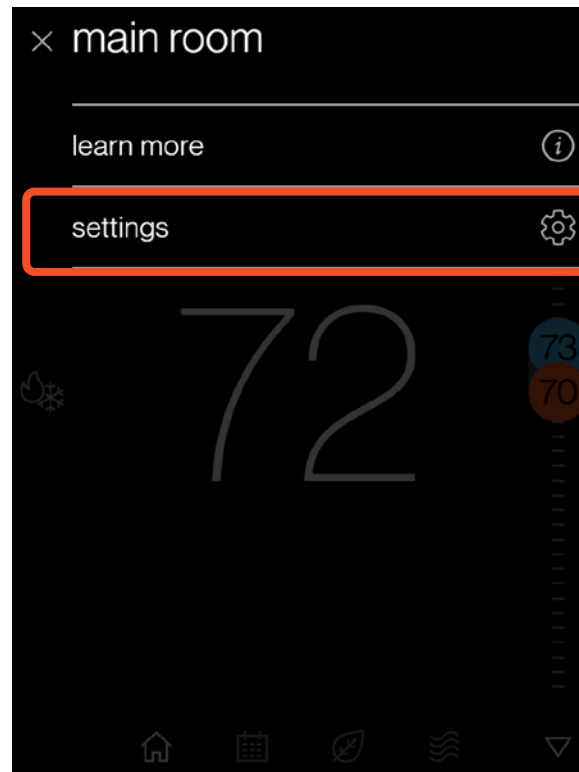
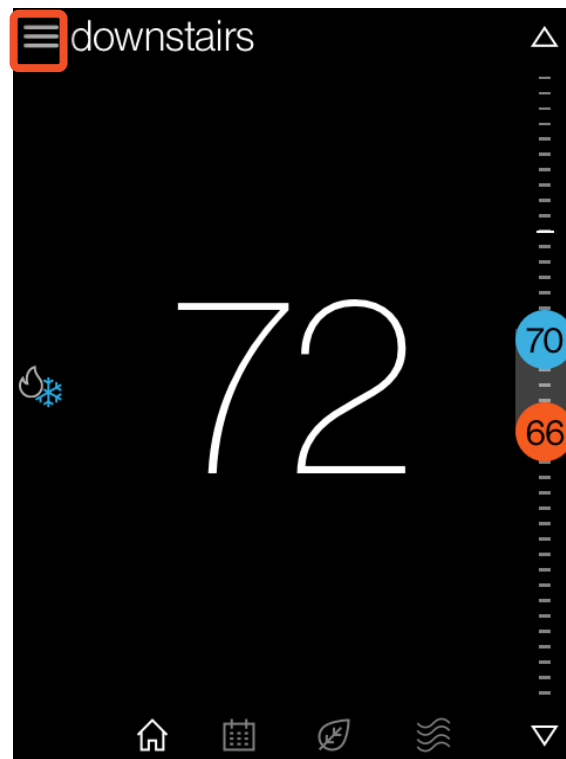
Homeowner Navigation

Mobile Apps

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.



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.

< dealer edit ⓘ

Enter your 4-digit PIN to unlock the thermostat:

□ □ □ □

unlock thermostat 🔒

q	w	e	r	t	y	u	i	o	p
	a	s	d	f	g	h	j	k	l
↩	z	x	c	v	b	n	m	⌫	
123								done	

dealer edit ✕

Dealer edit accesses the advanced settings for the thermostat created during the initial setup process.

Each thermostat has a unique installer code used to unlock the thermostat's advanced settings — last four characters of the thermostat's MAC address.

This thermostat's installer code is:

c0fe

Agenda

Daikin *One+*

System Configurations

Installing Daikin *One+*

Commissioning Daikin *One+*

Full Set-up

Dealer Navigation

Homeowner Navigation

Mobile Apps

Homeowner Navigation

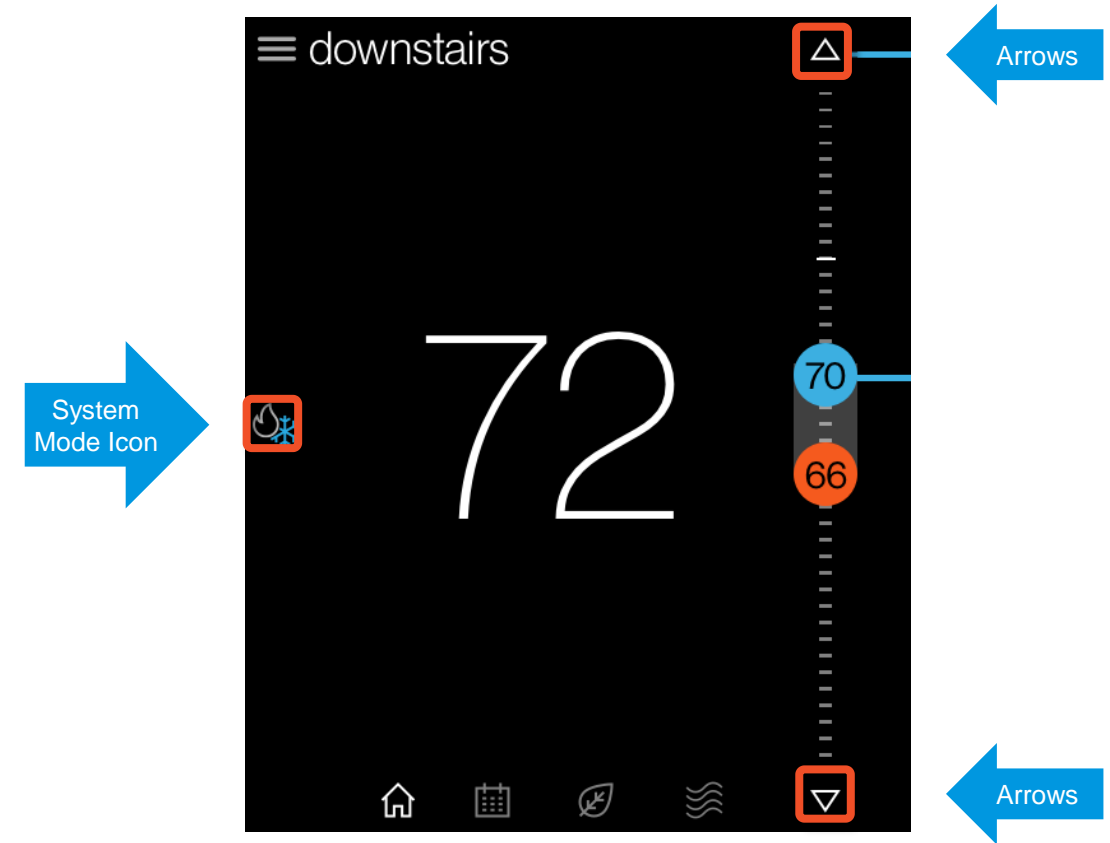
Normal Mode

- 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.



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.

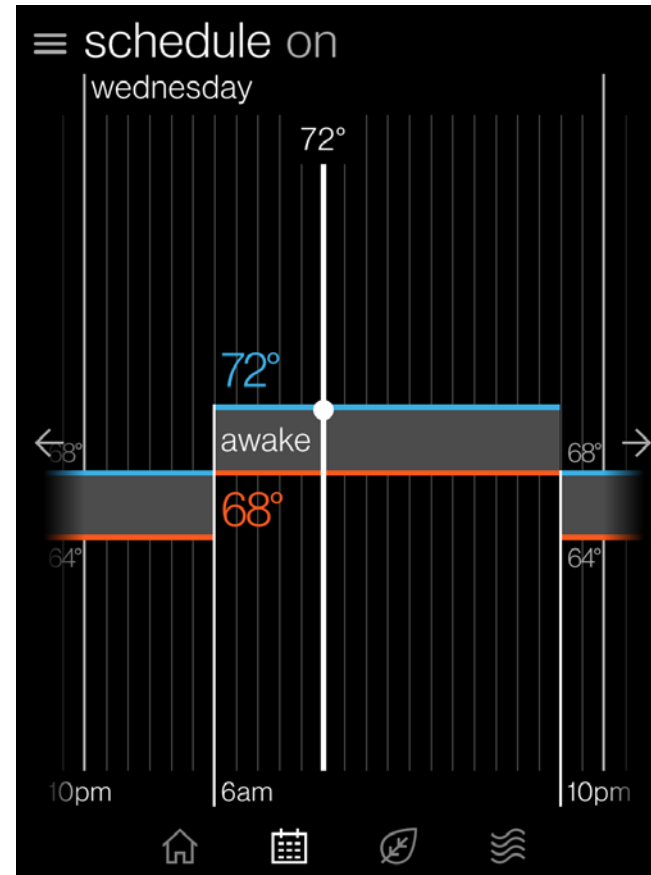


Homeowner Navigation

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.

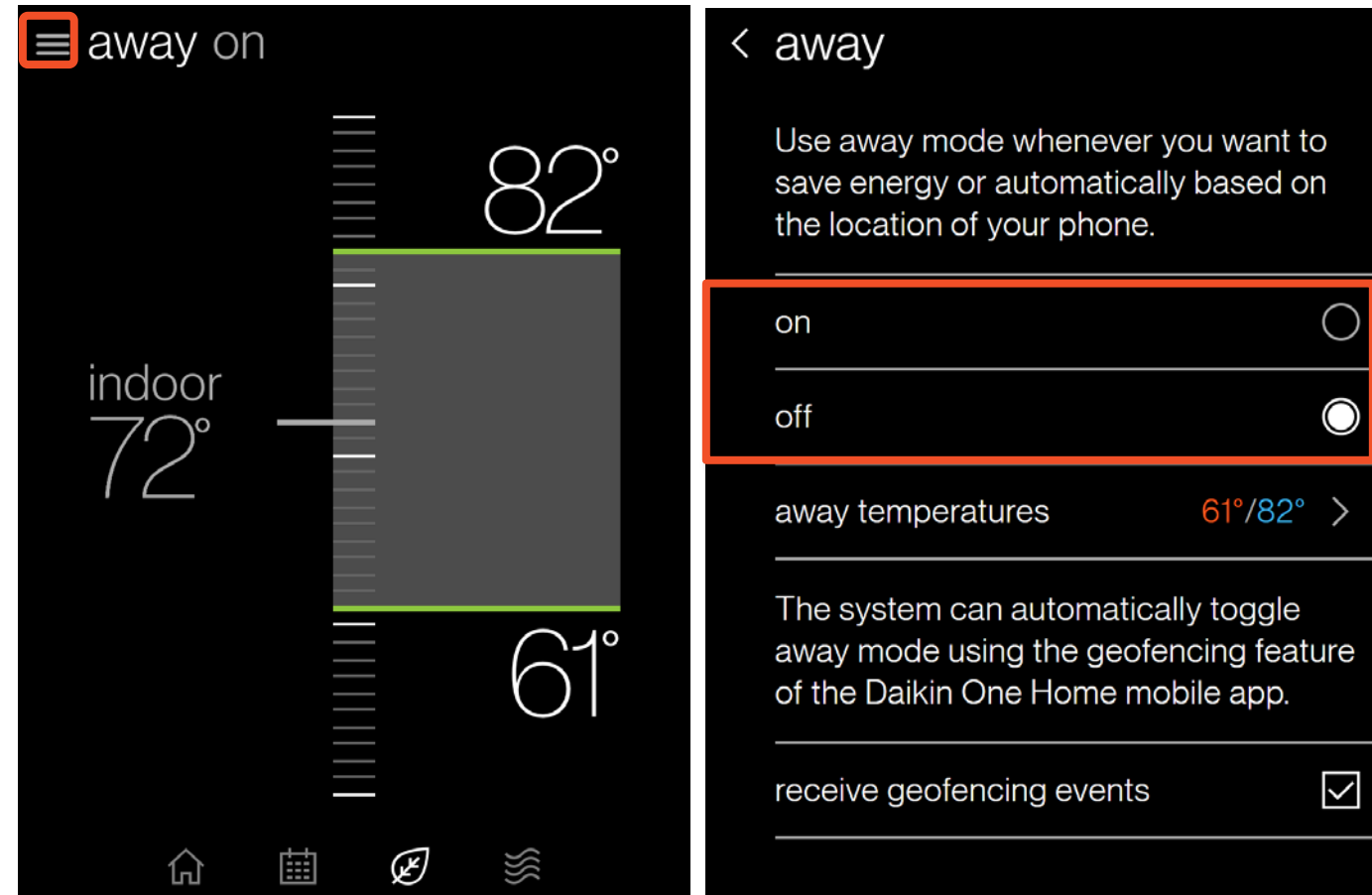


The screenshot shows the 'copy day' screen for Tuesday. It allows the user to copy the schedule for Tuesday to another day. The 'copy day' section shows the days of the week (s, m, t, w, t, f, s) and the 'cancel' and 'paste' buttons.

Homeowner Navigation

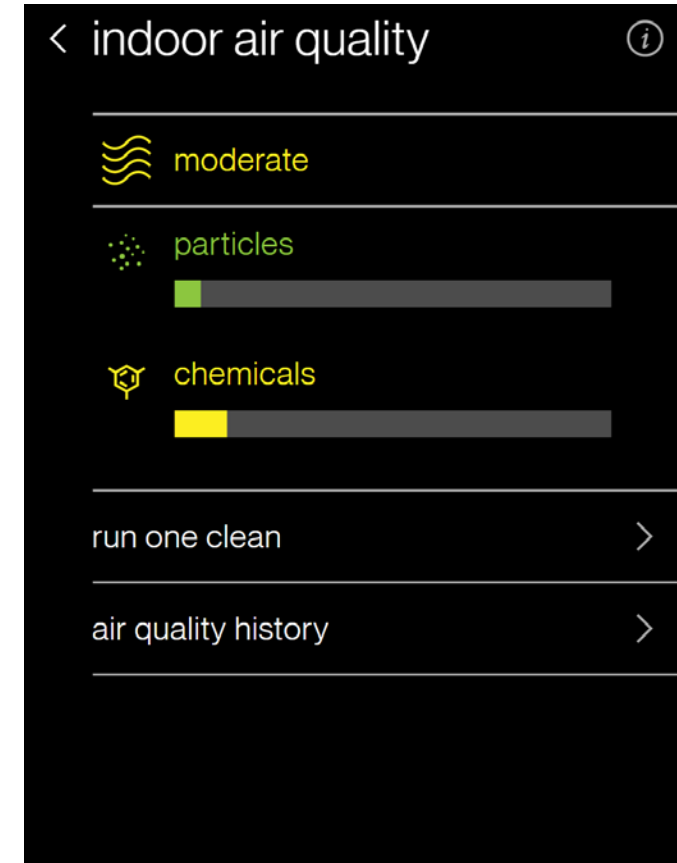
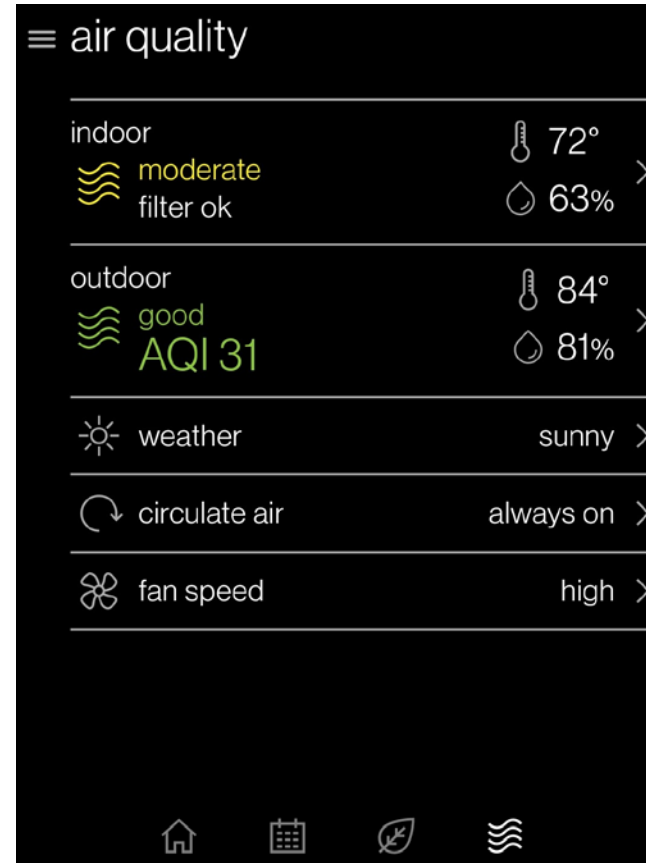
Away

- 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.



Air quality

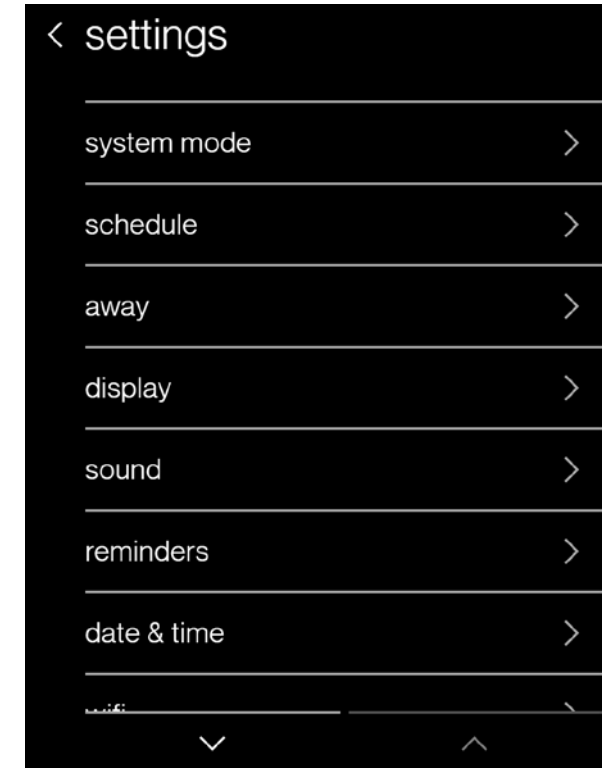
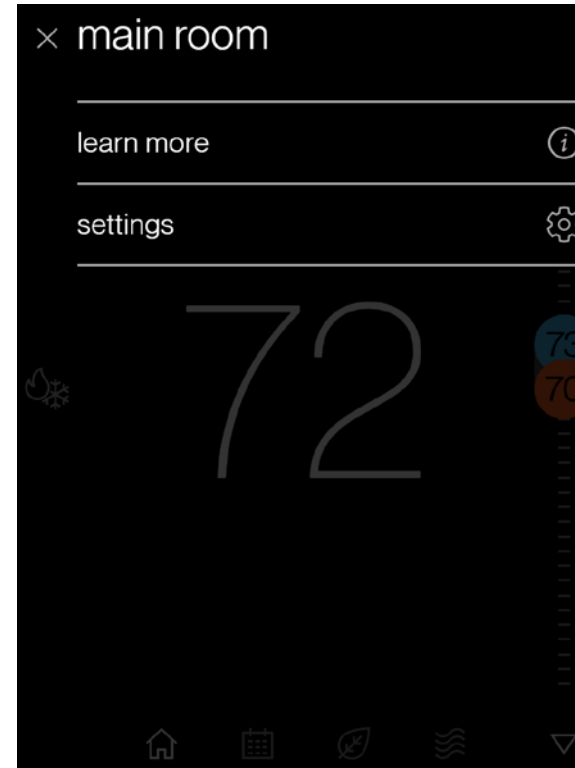
- The air quality screen displays **indoor air** quality levels, **outdoor air** quality, and **weather** (when connected to the internet and paired with the app.)
- If air quality sensors **are not** installed, indoor air quality is based on filter life cycle and humidity values.
- Selecting indoor 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.



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



Agenda

Daikin *One+*

System Configurations

Installing Daikin *One+*

Commissioning Daikin *One+*

Full Set-up

Dealer Navigation

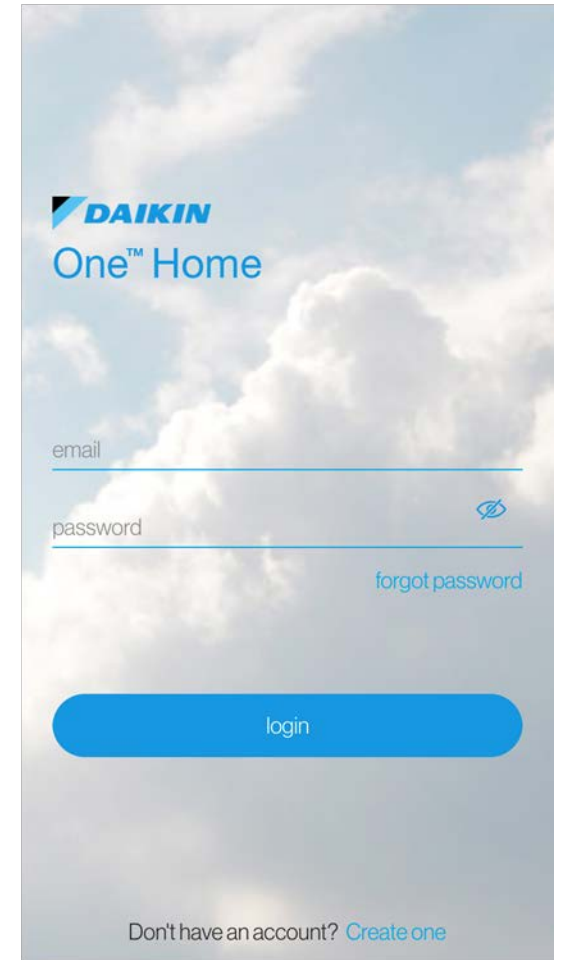
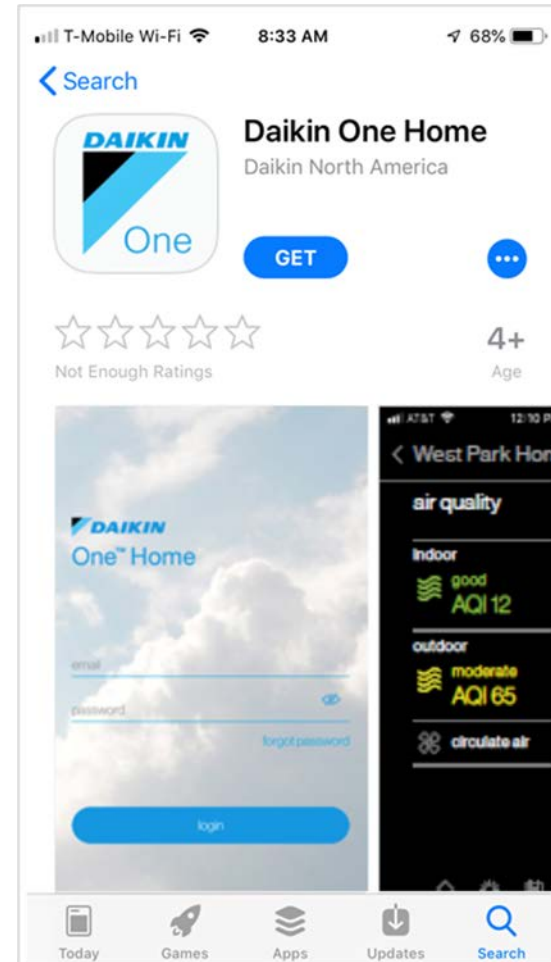
Homeowner Navigation

Mobile Apps

Account set-up

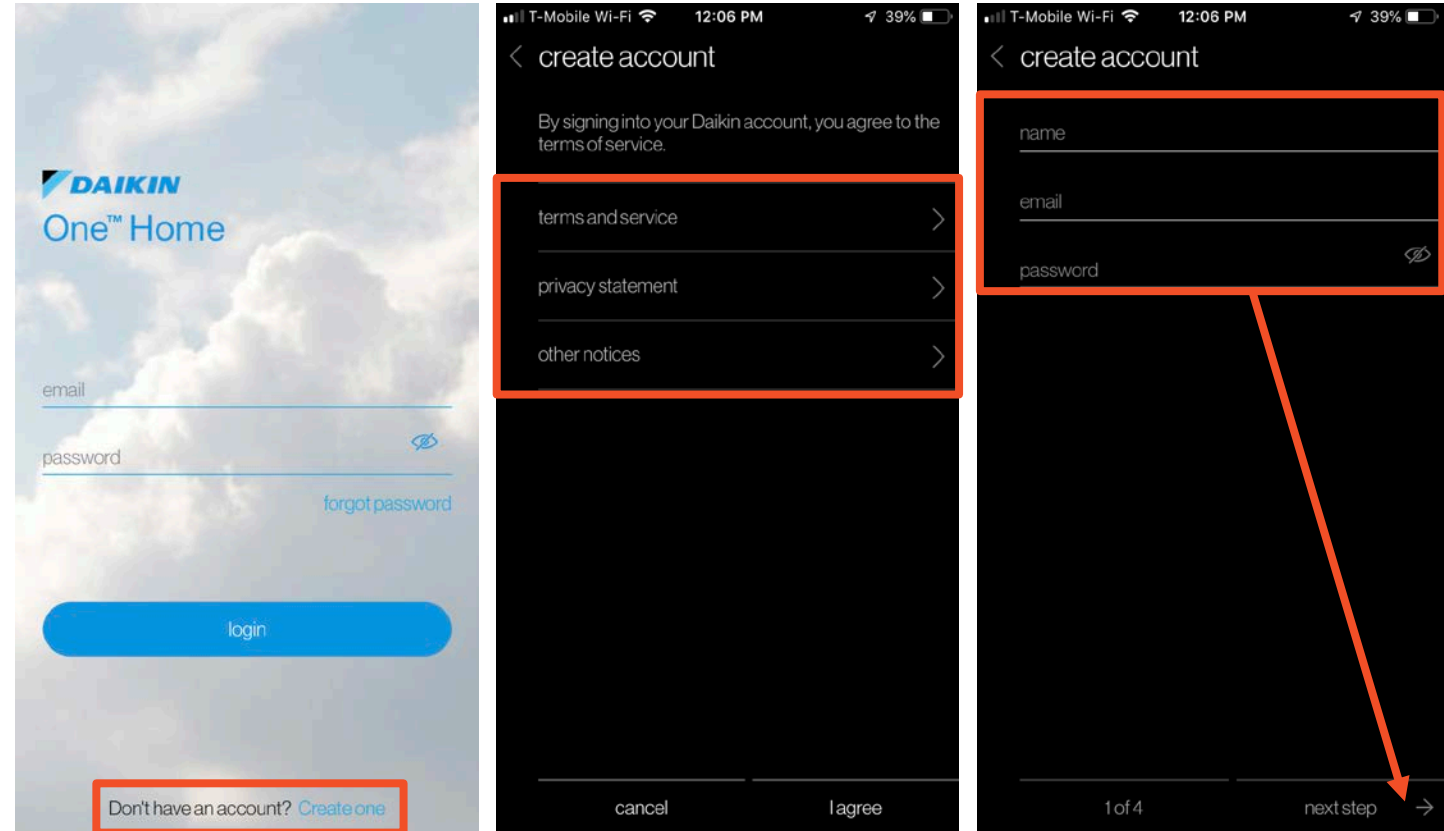
- Setting up an account is a four-step process.
 1. Downloading the application from your IOS or Android application store.
 - Creating the account.
 2. Confirming your account.
 3. Adding the thermostats' location.
 4. Connecting the app to the thermostat.

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.



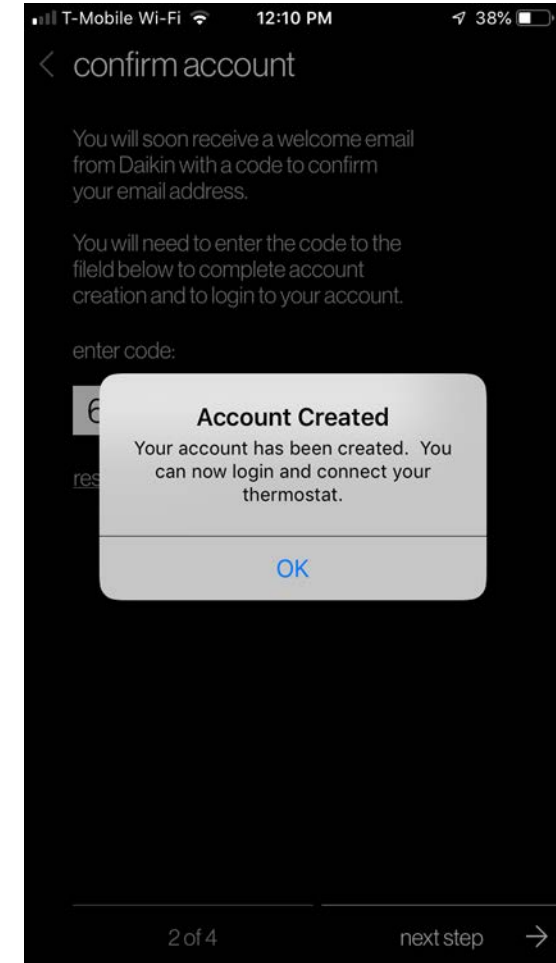
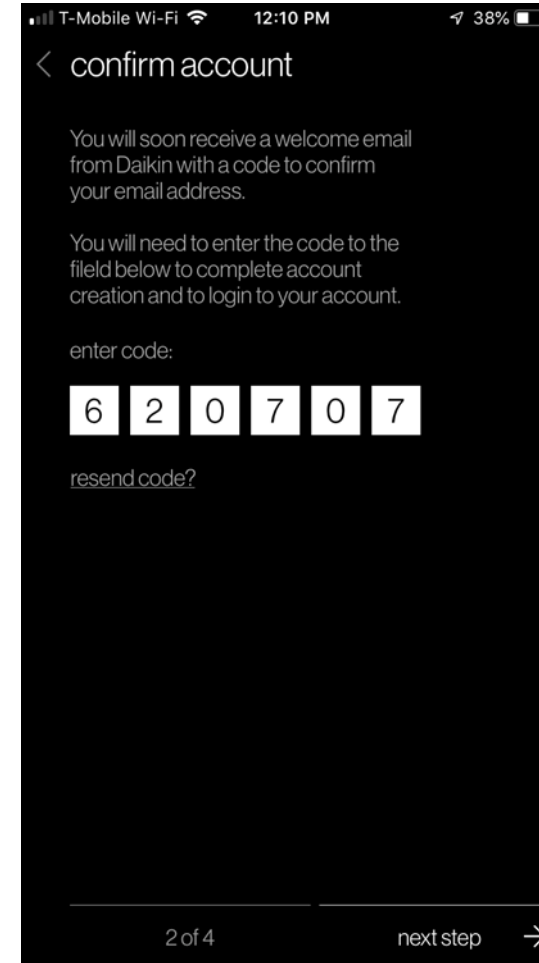
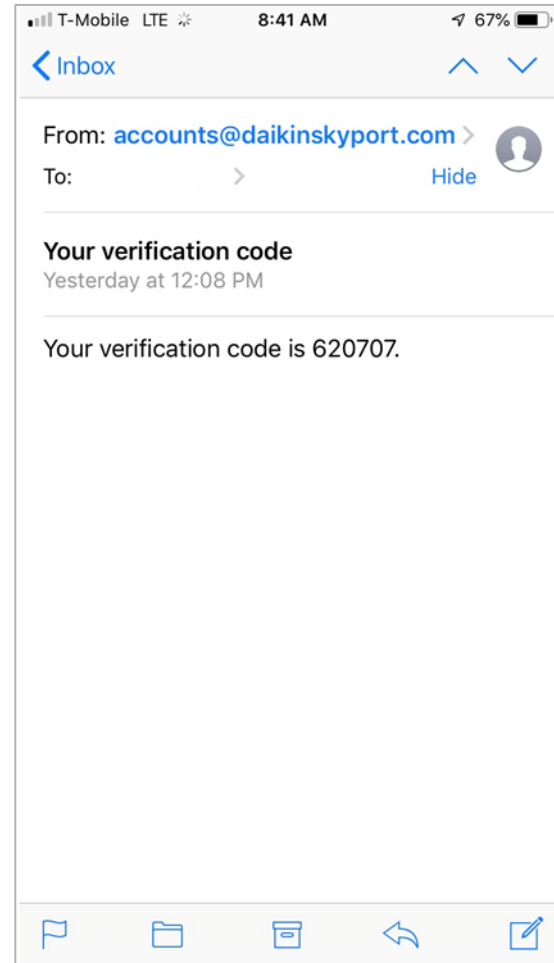
Step 1 - Create the account

- 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.



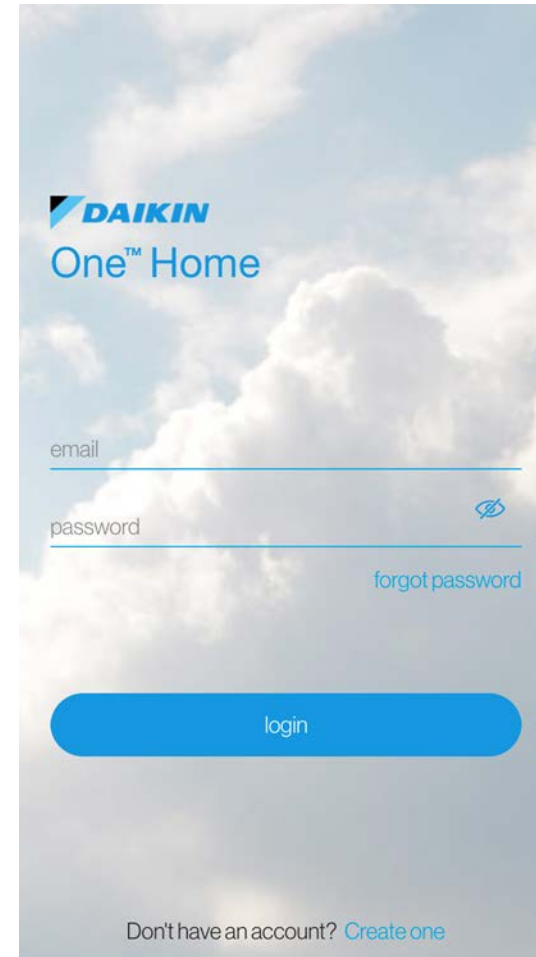
Step 2 - Confirming the account

- 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.



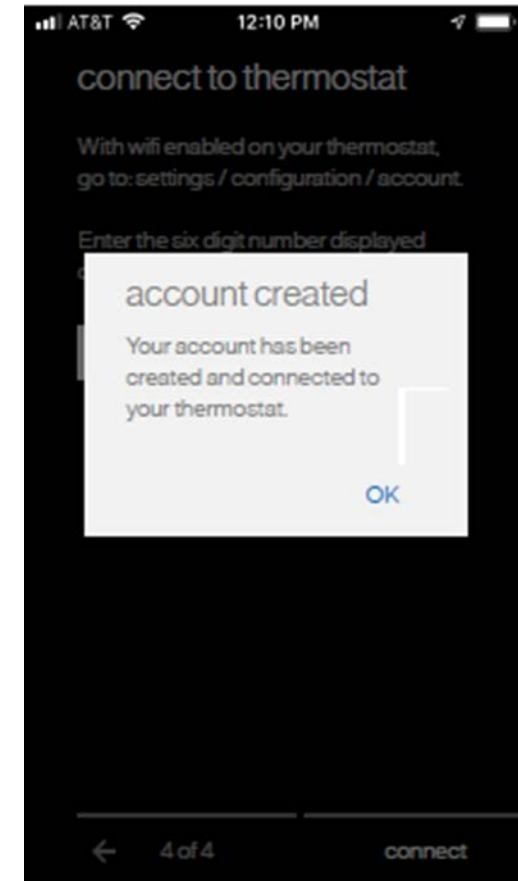
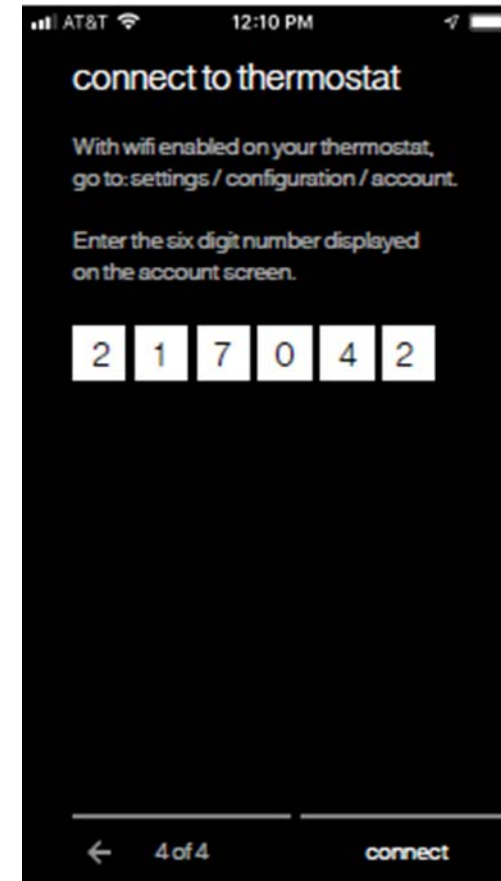
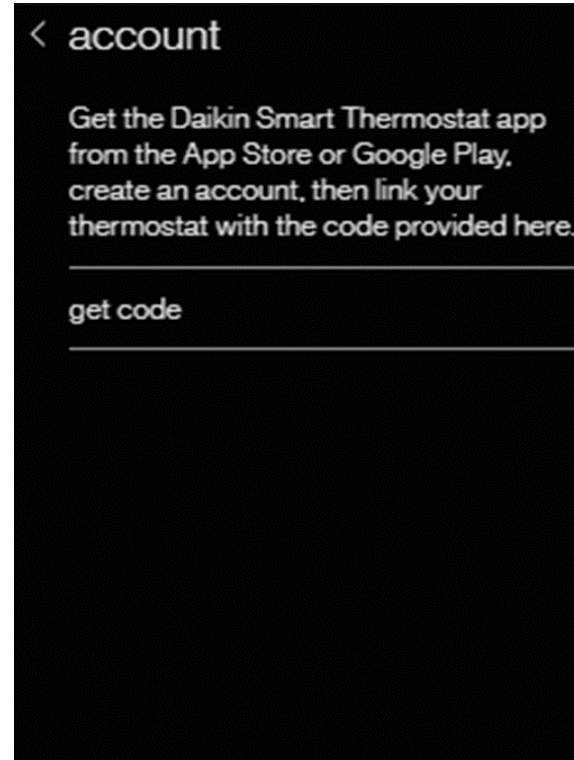
Step 3 - Adding the thermostats location

- 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.

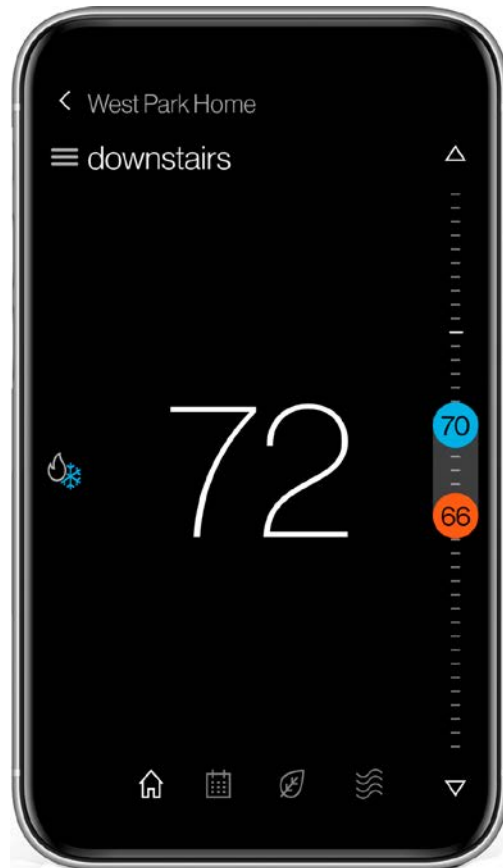


Step 4 - Connecting the App to the thermostat

- 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.



Mobile Apps



Visit Daikinone.com for additional information

