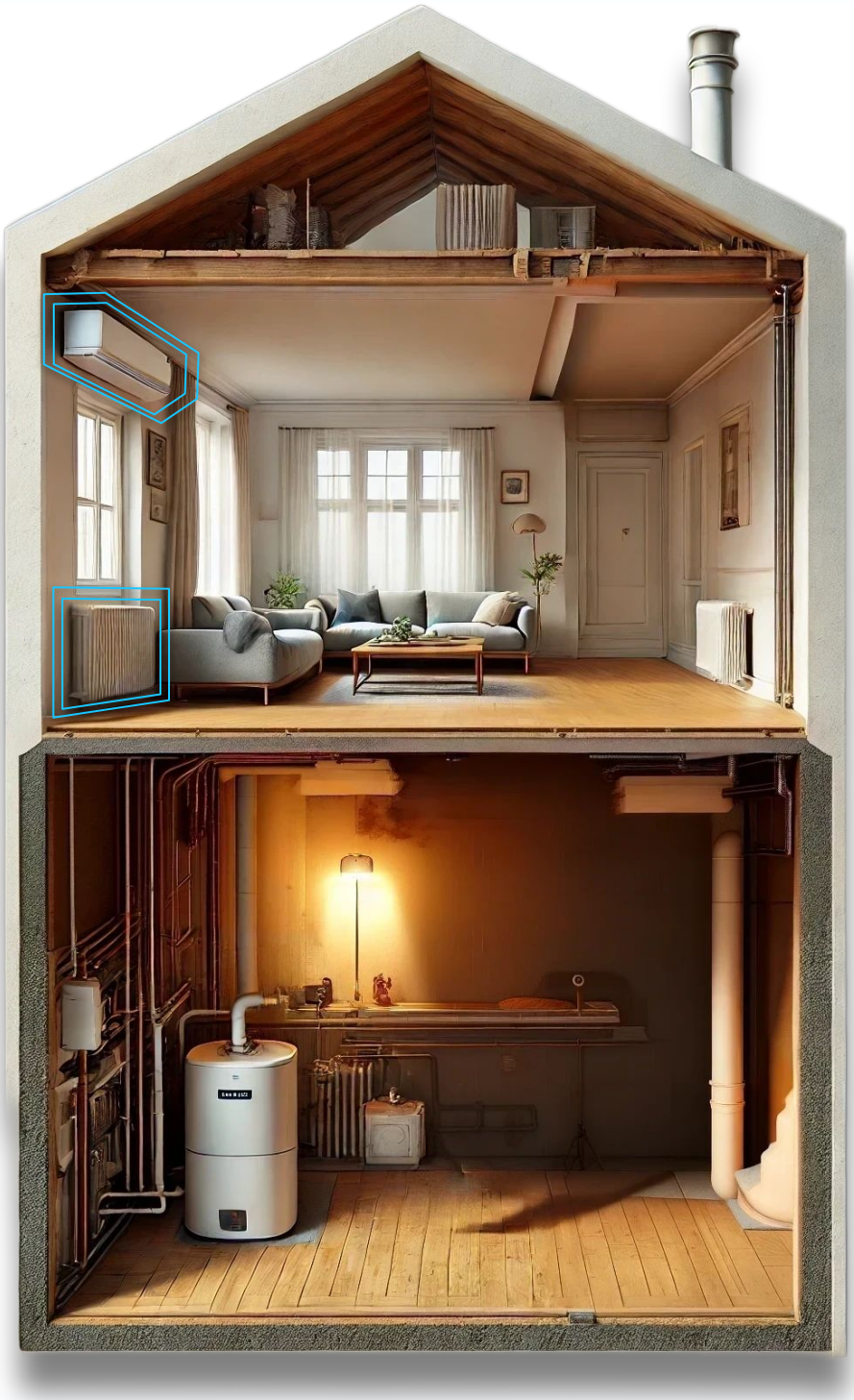
FLAIR

Staged Heating Solution Guide

Installation and User Guide



Flair Bridge Pro

Flair Puck Pro

This guide provides detailed instructions for installing, configuring, and operating a staged heating system using Flair's hvacOS™ platform, Flair Bridge Pro and/or Flair Puck Pro(s).

We're Here to Help

CONTACT FLAIR

For dedicated dealer phone and email support, login or register.

Existing Flair Pro?
Login to the Pro Portal for contact information.

PRO PORTAL
flair.co/pros

Not yet a Flair Pro?
Complete the Pro registration and a member of our team will be in touch.

PRO REGISTRATION
flair.co/register

Contents

1.1 About This Guide

Purpose

This guide provides detailed instructions for installing, configuring, and operating a staged heating system using Flair's hvacOS™ platform. It is designed for HVAC professionals and contractors who are integrating Ductless Heat Pumps (DHPs) with secondary heating sources such as boilers or electric baseboard heaters.

Audience

This document is intended for:

- **HVAC Contractors:** Professionals responsible for installing and maintaining heating systems.
- **System Integrators:** Those configuring multi-stage heating solutions with Flair products.

Scope

This guide covers:

- An overview of staged heating and its benefits.
- Installing a Bridge Pro to integrate second-stage heating systems via a Puck Pro (Solution 1) or existing smart thermostat (Solution 2).
- Step-by-step configuration using the Flair app.
- Best practices for ensuring optimal performance.

NOTE: This guide does not include instructions for setting up Flair Puck Pros to control DHPs, detailed wiring diagrams, or a full overview of the Flair App. Those materials are available at:

PRO TRAINING

flair.co/protraining

How to Use This Guide

- **Quick Start Guide:** For experienced installers who need a high-level overview.
- **Detailed Installation Instructions:** Guidance for mounting, wiring, and configuring devices.
- **Operation Guide:** Information on system behavior and how to use the Flair app for control.
- **Troubleshooting:** Common issues and solutions for seamless operation.

By following this guide, users can confidently set up a staged heating system that maximizes comfort and efficiency using Flair's platform.

1.2 What is Staged Heating?

Overview

Staged Heating, sometimes referred to as "Integrated Controls" is a heating control strategy that uses multiple heating sources to optimize comfort and energy efficiency. The first stage typically relies on a **ductless heat pump (DHP)** such as a mini split, which provides efficient heating under mild conditions. When additional heating is needed—such as in colder temperatures—the second stage, typically a **boiler or electric baseboard heater**, is activated to supplement the heat.

Benefits of Staged Heating

- **Energy Efficiency:** The system prioritizes the use of the most energy-efficient heat source.
- **Improved Comfort**: Provides balanced indoor temperatures without over-reliance on one system.
- **Energy Cost Savings**: Reduces energy consumption by using the primary heating stage as long as possible before activating the secondary source.
- **Potential Equipment Rebates:** Many utilities and state energy programs provide rebates for equipment that meets their staged heating program requirements.
- **Optimized System Lifespan:** Distributes workload across multiple heating systems, reducing wear and tear on any single component.

How Flair Manages Staged Heating

Flair's hvacOS™ platform automates the transition between heating stages based on indoor temperature, outdoor conditions, and user preferences. There are two primary solution methods to achieve staged heating within the Flair platform ecosystem:

1. **SOLUTION 1: Puck Pro Managing DHPs for First-Stage | Bridge Pro Managing Second-Stage**
    - The Puck Pro remains the controller for the first stage.
    - The Bridge Pro directly manages the secondary heating system (boiler or baseboard heater(s)).
    - This integration provides a seamless transition between heating stages without requiring a smart thermostat or the need of two party application control.
    - This is the recommended solution.

1. **SOLUTION 2: Puck Pro Managing DHPs for First-Stage | Smart Thermostat Managing Second-Stage**
    - The Flair Puck Pro acts as the primary controller for the first-stage heating (DHPs).
    - A separate smart thermostat(s) is used to control the secondary heat source (boiler or baseboard heater(s)).
    - The system dynamically switches between stages based on temperature thresholds.

Flair's staged heating solution ensures that the heating system operates efficiently, providing optimal comfort while minimizing energy waste.

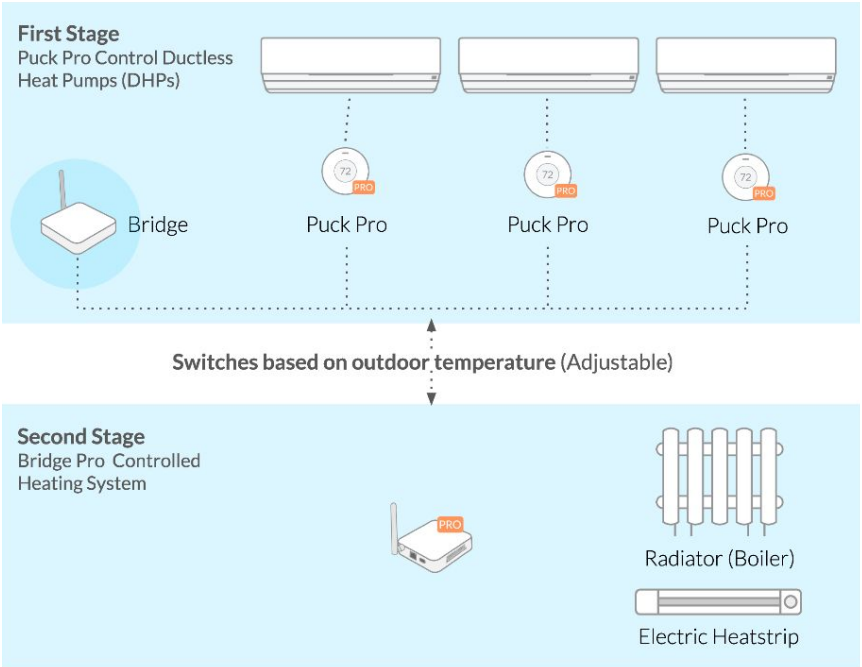
1.3 Flair's Staged Heating Solutions

Overview

Flair offers two primary solutions for implementing staged heating, allowing users to select the best method based on their existing HVAC equipment and preferences. These solutions integrate with various heating systems to maximize comfort and efficiency.

Solution 1: Puck Pro (First-Stage) with Bridge Pro (Second-Stage) | Recommended

In this setup, **Flair's Puck Pro controls the first-stage heating** Ductless Heat Pumps (DHPs), while **Flair's Bridge Pro directly manages the second-stage heating** (boiler or electric baseboard heater). This method eliminates the need for smart thermostat(s), providing a seamless Flair-native solution for multi-stage heating. The **Flair Bridge can be used as the primary network communication hub** between Puck Pro(s) and the Bridge Pro.



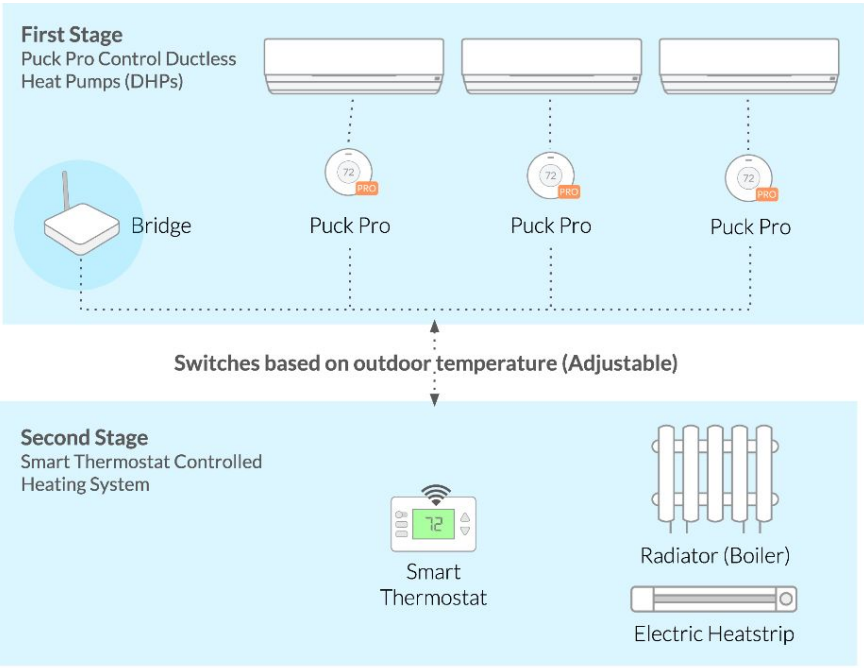
Key Features:

- Puck Pro manages DHP operation using Infrared (IR) communication.
- Bridge Pro controls the secondary heating source.
- Seamless first party integration within the Flair app for full control of both heating stages.
- **Rapid installation with no C-Wire pulls.**
- Dry/Wet contacts on Bridge **Pro support up to 7 boiler or electric baseboard heater zones.**
- First and Second-Stage heating control configured in a single, installer/homeowner friendly application.

1.3 Flair's Staged Heating Solutions

Solution 2: Puck Pro (First-Stage) with Smart Thermostat (Second Stage)

In this setup, the **Flair Puck Pro controls the first-stage heating** (DHPs), while a **smart thermostat manages the second-stage heating** (boiler or electric baseboard heater). This method is an option for users who already have a compatible smart thermostat and wish to integrate it with Flair's staged heating system. The **Flair Bridge can be used as the Flair platform's primary network connection hub.**



Key Features:

- Puck Pro sends Infrared (IR) signals to control the DHP.
- Smart thermostat activates the secondary heat source when additional heating is needed.
- Automatic transitions between stages based on indoor or outdoor temperature settings.
- Works with popular smart thermostats like Nest, Ecobee, and Honeywell.

1.3 Flair's Staged Heating Solutions

Choosing the Right Solution

To determine the best solution for a staged heating setup, consider the following:

- **Solution 1: Flair-First Party Solution (Recommended):** If no smart thermostat is installed or the direct equipment interface and zone flexibility benefits of a fully integrated Flair staged heating setup is desired, the Bridge Pro provides a simple, low-cost, high performance, fully featured and reliable solution.
- **Solution 2: Flair + Existing Smart Thermostat:** If the home already has a compatible smart thermostat(s), integration with Puck Pro and a Bridge as a network communication hub can be a cost-effective option to enable staged heating..
- **Installation Preferences:** The Bridge Pro provides a more rapid installation without the need for pulling C-Wires or software integration.

By selecting the right integration method, homeowners and contractors can ensure that their staged heating system operates efficiently, providing both comfort and cost savings.

2.1 System Requirements

Overview

Before installing and configuring either of Flair's staged heating solutions, ensure that all necessary components and system requirements are met. This section outlines the required hardware, software, and compatibility considerations. Verifying these system requirements before installation ensures a smooth setup process and avoids compatibility issues during configuration.

Required Components for Solution 1: Puck Pro with Bridge Pro

- **Flair Puck Pro** – Required for controlling ductless heat pumps (DHPs). One Puck Pro per Indoor Unit
- **Flair Bridge Pro** - Supports up to 7 Boiler or Electric Baseboard Zones
- **Thermostat Wire, Wire Nuts, etc (Field Supplied)** - For electric baseboard heaters, you'll also likely need junction boxes, strain relievers, etc.
- **Line Level Relay(s) (Field Supplied)** – For electric baseboard heater installations. Not needed for boiler systems.
- **Flair Bridge (Optional)** – Network communication hub. Recommended for homes over 2500 square feet.
- **Internet Connection (Wi-Fi or Ethernet)** – Required for app connectivity and system control.
- **Flair App** – Available for iOS and Android for system configuration and management.

Required Components for Solution 2: Puck Pro with Smart Thermostat

- **Flair Puck Pro** – Required for controlling ductless heat pumps (DHPs). One Puck Pro per Indoor Unit
- **Smart Thermostat** – One per boiler zone.
- **Flair Bridge** – Network communication hub for Puck Pros and connects to Wi-Fi or Ethernet
- **Internet Connection (Wi-Fi or Ethernet)** – Required for app connectivity and system control.
- **Flair App** – Available for iOS and Android for system configuration and management.

Required HVAC System Compatibility

- **Ductless Heat Pumps (DHPs or Mini Splits)** – Must support infrared (IR) control.
- **Second-Stage Heating Systems** – Must be either a boiler or electric baseboard heater.
- **Smart Thermostats** – Nest, Ecobee, and Honeywell models are supported for integration. Not needed for Puck Pro with Bridge Pro staged heating system

Network Requirements

- A stable **Internet** connection (Wi-Fi or Ethernet) is required for Flair devices to communicate effectively.
- Ensure that the network does not have strict firewall settings that could block Flair devices.

2.2 Installation at a Glance

Overview

This section provides a high-level overview of the installation process for Flair's staged heating system. The steps below summarize the key actions required for both integration methods.

Step 1: Install the Flair App

- We recommend creating an account under the homeowner's email address and hand the system over to the homeowner upon completion.

Download on the App Store — flair.co/ios

GET IT ON Google Play — flair.co/android

Use the Flair Web App — my.flair.co

Step 2: Follow the In-App Instructions

- The App will guide you through adding Flair Devices, integrating with DHPs, and integrating the second stage either via a Smart Thermostat(s) or Bridge Pro.
- The App will also guide you through configuring the interactions between first and second stage heat systems.
- A detailed view of the Flair App Instructions for Staged Heating Setup can be found in Section 3 of this guide.

SECTION 3: DETAILED INSTALLATION GUIDE

Step 3: Hand the System Over to the Homeowner

Transitioning the Flair System

Help the customer to get the Flair App installed and optionally (and with their permission) give you access to their system remotely:

1. In your (contractors) Flair App, Add Homeowner Editor User in the Flair app, tap the Flair menu and go to Home Settings->Users
2. Enter your work email address in the "Invitation Email"*
3. Select "User can make changes to this home"
4. Tap the arrow
5. You'll receive an invitation email to join this home and view it from your Flair account.
6. Customer Installs Flair App
7. Have the customer do the following:
    a. Install the Flair app on their phone
    b. Log in using their email address and the temporary password
    c. Tap the Flair menu, go to Account Settings and change their password

* This is the email address you used to create your own, separate Flair account - and will be the account you use to remotely access the customer's Flair home. If you have a large company with many installers, you might want to create your Flair account using a general company email address that others can use to access your customers' Flair homes.

Homeowner Support

Give the customer the following:

HOMEOWNER GUIDE - STAGED HEATING

flair.co/homeowner-guide-staged-heating

HOMEOWNER SUPPORT EMAIL

support@flair.co

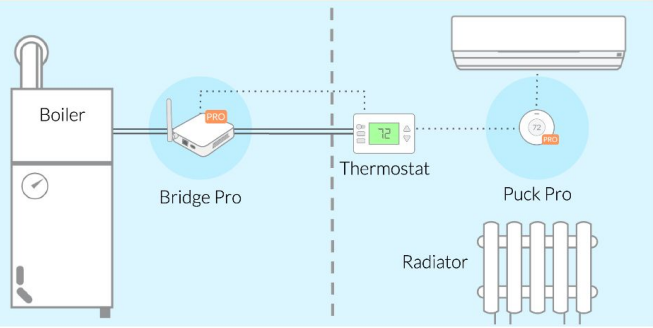
3.1 Choosing the Right Setup

Overview

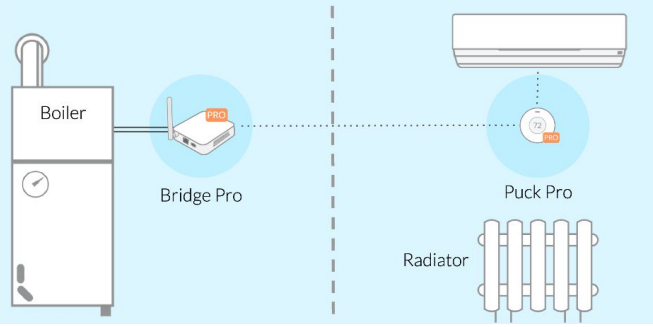
Flair recommends staged heating with the Bridge Pro and a Puck Pro per DHP head unit - **Solution 1**. However, if a homeowner already has a compatible Smart Thermostat(s) controlling their boiler or electric baseboard heating system, a Bridge + Puck Pro per DHP head unit and the existing Smart Thermostat - **Solution 2** is a Staged Heating System option.

SOLUTION 1 **Puck Pro with Bridge Pro (Recommended)**	**SOLUTION 2** **Puck Pro with Smart Thermostat**
Reasons to Choose Bridge Pro Based System	**Reasons to Choose Puck Pro with Smart Thermostat System**
No C-Wire Pulls No Installation of an Outdoor Sensor	Homeowner Already has compatible Smart Thermostat(s) with a Staged Heating Feature
Multiple Boiler or Electric Baseboard Heat Zones	Single Zone or Zoning Board System Exists
Much Lower Installation Time/Cost than 3rd Party Alternatives	Fast, Cost-Effective, Basic Alternative Desired
Single Application platform for more intuitive control/experience	Homeowner is happy with two (2) application platforms

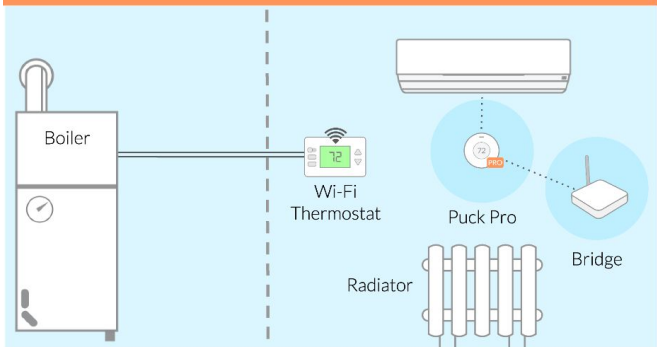
Lockout: Leave the existing boiler thermostat



Controller: Puck Pro as the only thermostat



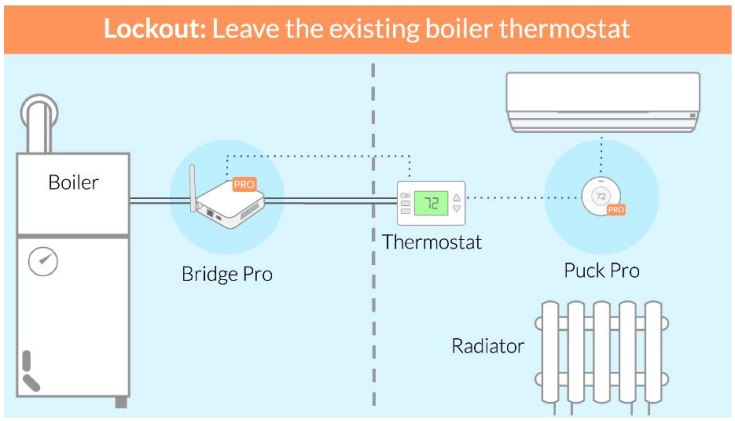
Puck Pro + Bridge with Smart Thermostat



3.2 Types of Bridge Pro Based Staged Heating

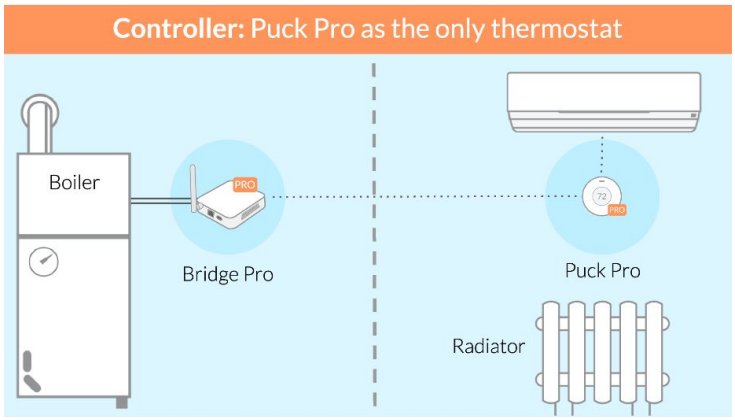
Lockout

Flair generally recommends lockout systems where a homeowner's existing thermostat(s) is left in place in and the Bridge Pro is "locking out" the thermostat when only the first stage (DHP(s)) is running.



Controller

The "Controller" configuration provides a cleaner installation for a homeowner as the only thermostat used across both heating systems is the Puck Pro(s) however this requires disconnected and/or removing the legacy thermostat(s) which may lead to additional work, drywall patching etc. This configuration is ideal for new construction, deep retrofits, or homeowners who strongly prefer removing the old thermostat for ease of use or aesthetics.



Lockout + Controller

While not typical, it is possible to configure some second stage zones as "Lockout" and others as "Controller" configurations.

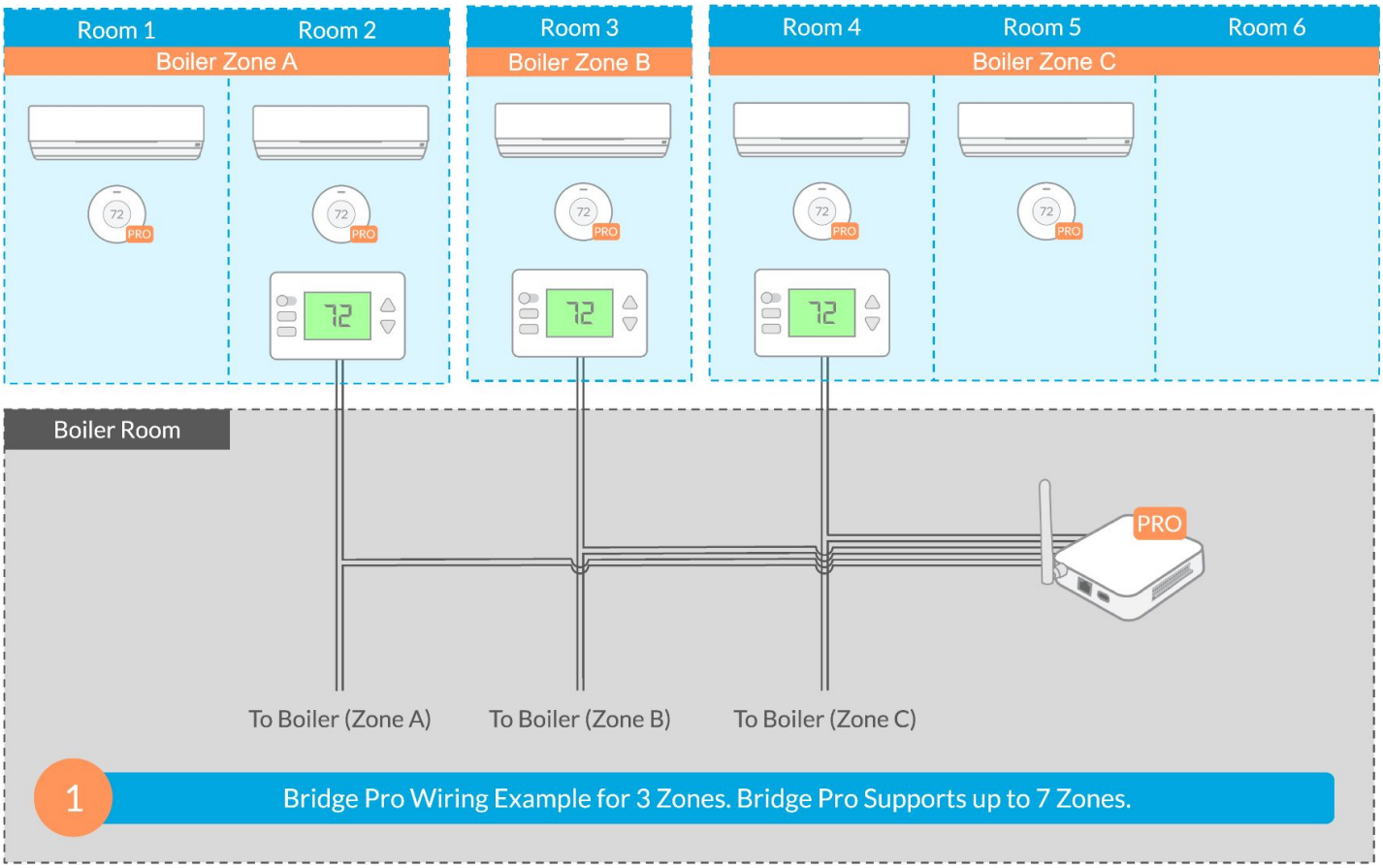
3.3 Typical Configurations

Zonal Overlap

Below is an example of a 5 “head” DHP configuration with a 3 zone boiler configuration.
During app setup, all room-zone associations will be configured.

Second Stage Control - Averaging

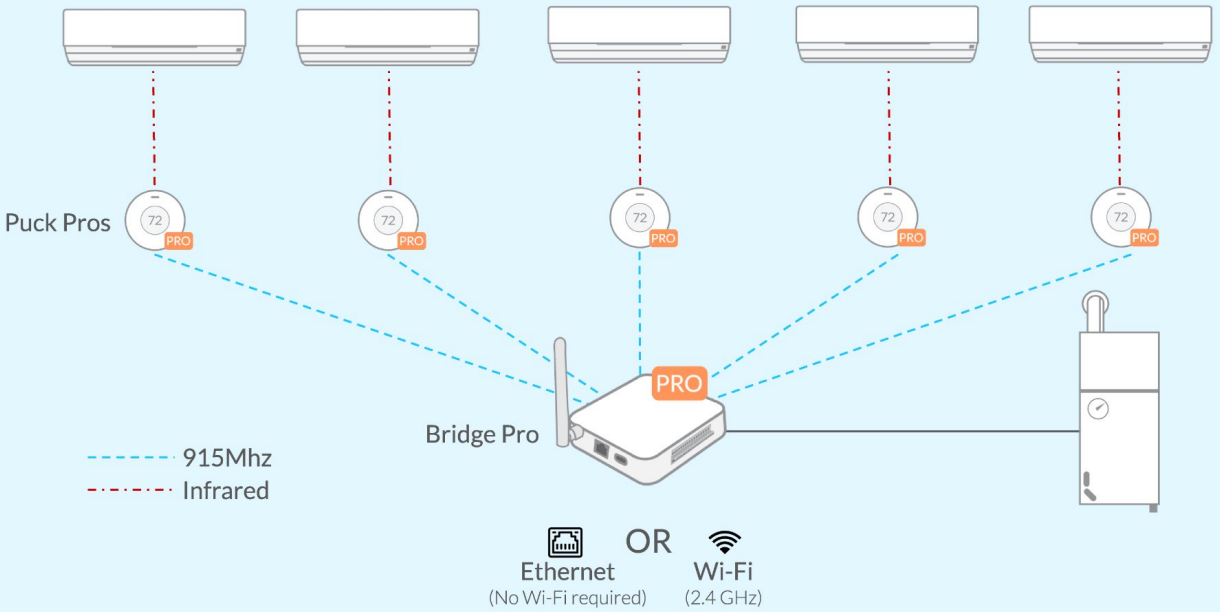
When the second stage is engaged, Flair Puck Pros will average across a zone.
For instance, in the below configuration, Boiler Zone A will average across Room 1 and Room 2 and Boiler Zone C will average across Rooms 4 and 5.



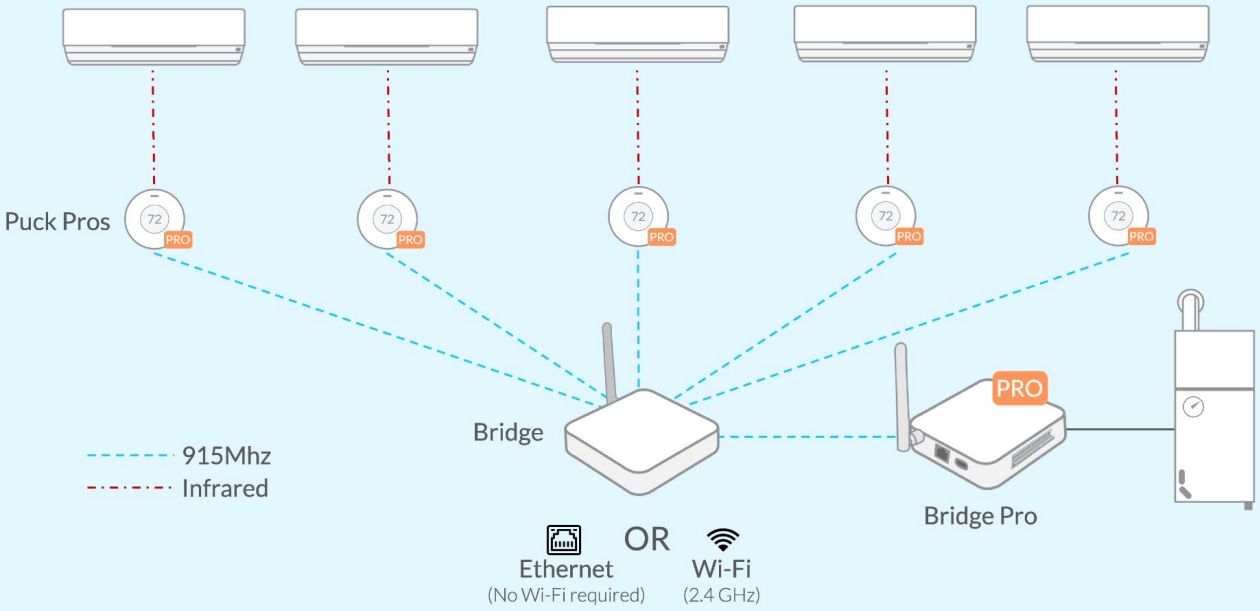
3.4 Networking and Communication Diagram Examples

Solution 1

Bridge Pro + Puck Pro(s)
Recommended for homes smaller than 2,500 sq. ft.



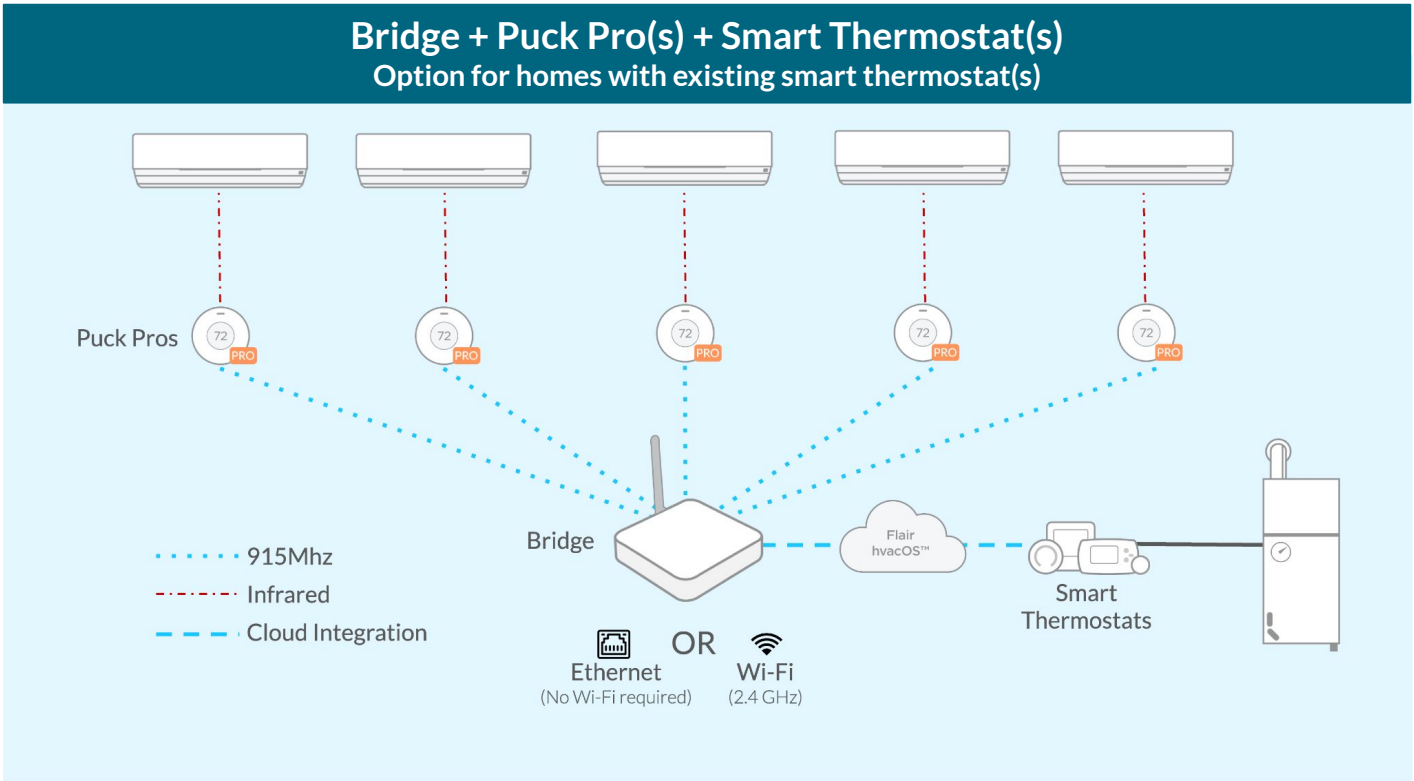
Bridge + Bridge Pro + Puck Pro(s)
Recommended for homes greater than 2,500 sq. ft.



3.4 Networking and Communication Diagram Examples

Solution 2

For homes with existing smart thermostats, Flair staged heating can be set up by using the Flair Puck Pro for controlling the first stage heat source (DHP), and use the existing smart thermostat to control the second stage heat source (boiler).



3.5 Networking and Communication Miscellaneous

Migrating from Bridge Pro Only to Bridge + Bridge Pro Setup

If a Bridge Pro Only setup is struggling to maintain a strong connection between the Bridge Pro and Puck Pros, you may need to utilize an additional Bridge. Ideally, this additional bridge is centrally located for ideal RF connectivity between the Bridge, Puck Pros, and Bridge Pro.

1. Finish full structure setup if you haven't already. Note that you might need to place Puck Pros closer to the Bridge Pro temporarily to complete the setup.
2. On the App's home screen, hit the '+' button, select 'Add Bridge' and follow the in-app instructions.
3. Enable network repair mode by opening the App Settings, going to 'Flair Devices', and toggling on 'Network Repair Mode'.
4. On the back of the Bridge Pro, briefly (< 1 second) tap the Reset Button.
5. After 5 minutes, check the App's home screen that no rooms say 'Offline'. If nothing says 'Offline', disable 'Network Repair Mode'.

Multiple Bridges

For very large systems, you may want to consider multiple Bridge devices. While this should be needed only in rare or exceptional circumstances, it is possible to do this with the Flair platform.

1. Finish full structure setup if you haven't already. Note that you might need to move Puck Pros closer to the Bridge temporarily.
2. On the App's home screen, hit the '+' button, select 'Add Bridge' and follow the in-app instructions.
3. Enable network repair mode by opening the App Settings, going to 'Flair Devices', and toggling on 'Network Repair Mode'.
4. After 5 minutes, check the App's home screen that no rooms say 'Offline'. If nothing says 'Offline', disable 'Network Repair Mode'.

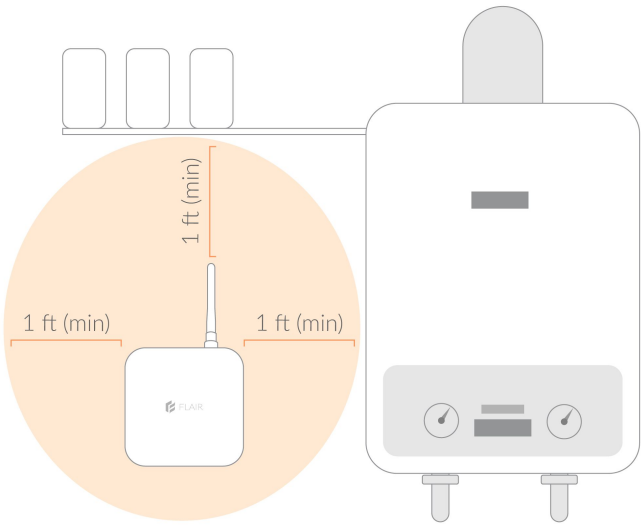
3.6 Bridge Pro's Role and Installation Details

Bridge Pro's Role

The Bridge Pro serves as a wired interface and controller, switching 24VAC signals to lockout or control a boiler(s), or a line level relay(s) used to control electric strip heaters. In Bridge Pro First Party configurations (Solution 1), the Bridge Pro can act as the central networking hub for the Flair platform.

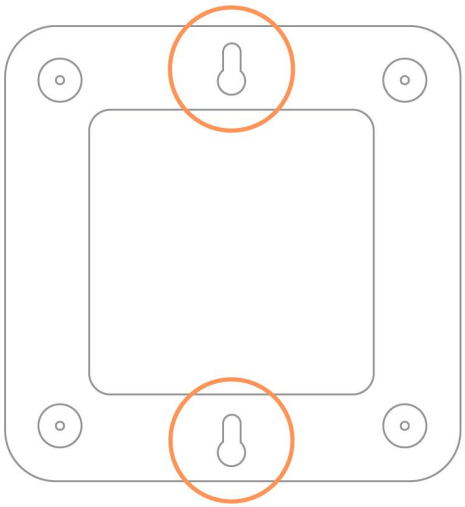
Bridge Pro Placement

The Bridge Pro is normally located near the boiler or the electrical panel that feeds electric baseboard heaters. The Bridge Pro's antenna should be at least one foot from any large metal objects.



It is typically mounted on the wall using its keyhole mounts and included screws.

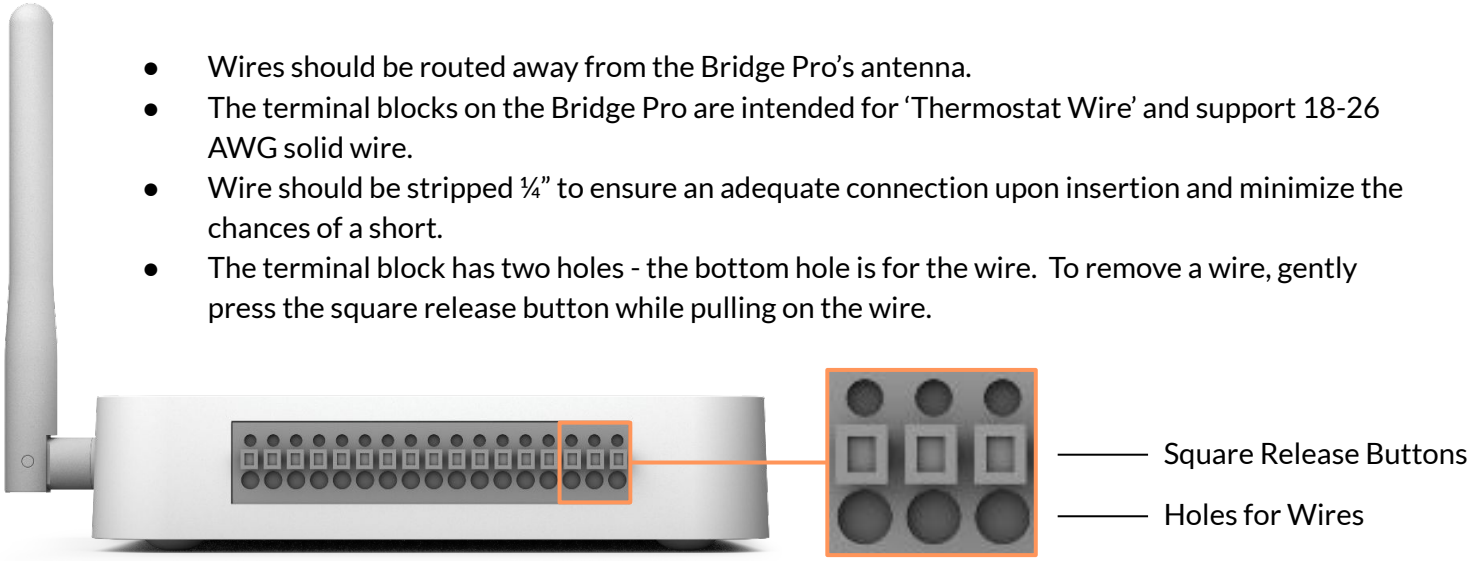
Included in the Bridge Pro packaging is a mounting template sticker. Place the sticker on the wall, drill any pilot holes or anchor holes as necessary, place included anchors if necessary, and screw in the included screws, leaving enough room to slide the Bridge Pro onto the screws securely.



Not to scale - use sticker template provided in box, oriented vertically

3.6 Bridge Pro's Role and Installation Details

Bridge Pro Wiring



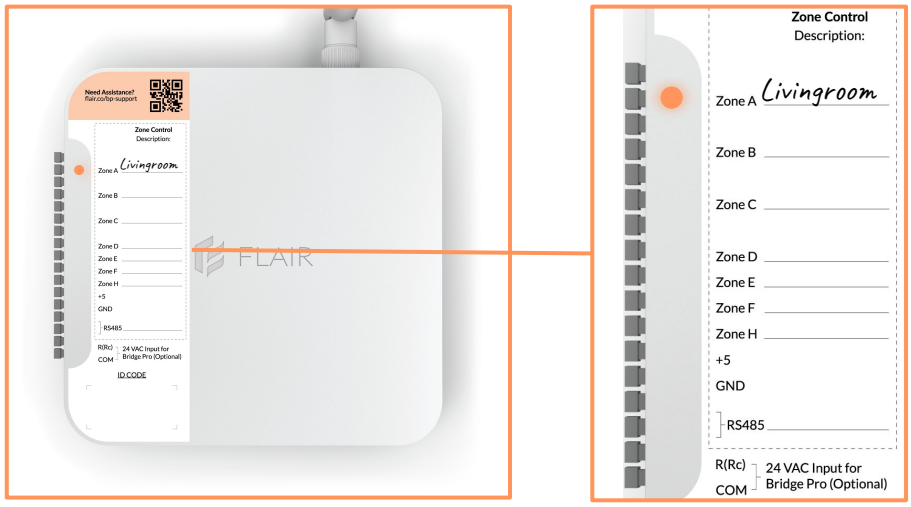
- Wires should be routed away from the Bridge Pro's antenna.
- The terminal blocks on the Bridge Pro are intended for 'Thermostat Wire' and support 18-26 AWG solid wire.
- Wire should be stripped ¼" to ensure an adequate connection upon insertion and minimize the chances of a short.
- The terminal block has two holes - the bottom hole is for the wire. To remove a wire, gently press the square release button while pulling on the wire.

Detailed wiring diagrams:

BRIDGE PRO WIRING DIAGRAMS

flair.co/wiring

Bridge Pro Labels and Indicator LEDs



The Bridge Pro has indicator LEDs located between the terminal block and the zone label sticker. When an LED indicator is illuminated, it means that the zone is either unlocked (in Lockout configurations) or heating (in Controller configurations). During installation, it's best practice to label the zones with their respective rooms on the Bridge Pro's sticker.

3.7 Bridge Pro LED Indicators

Overview

This page provides a comprehensive list of LED indicators on the Bridge Pro, explaining the colors and patterns and what each one means. Use this guide to quickly understand the device's status, including connectivity, operation, and troubleshooting states.

Color	Status
Pulsing Blue	Ready for WiFi setup
Pulsing White	Ready for Ethernet setup
Solid Blue	Connected to WiFi/Ethernet setup complete
Solid Teal	Connected to Bridge or Bridge Pro as AP
Pulsing Red	No internet access*
Solid Red	Failed to connect to WiFi/Ethernet
Flashing Green	OTA in progress
Solid Green	OTA successful
Solid Purple	OTA failed
Pulsing Orange	Setup mode enabled

*The Bridge Pro may take up to a few minutes to start pulsing red in the event of no internet access.
The Bridge Pro will stay solid blue after:

- A successful Wi-Fi/ethernet setup
- Power cycling after a successful Wi-Fi/ethernet setup

3. Detailed Installation Guide

3.8 Step-by-Step Setup of Staged Heating with Bridge Pro

Solution 1: Puck Pro (First-Stage) with Bridge Pro (Second-Stage)

Setting up your new home system involves a clear, step-by-step process to ensure seamless integration and functionality.
Following the steps on the following pages ensures a smooth setup of staged heating with the Bridge Pro.

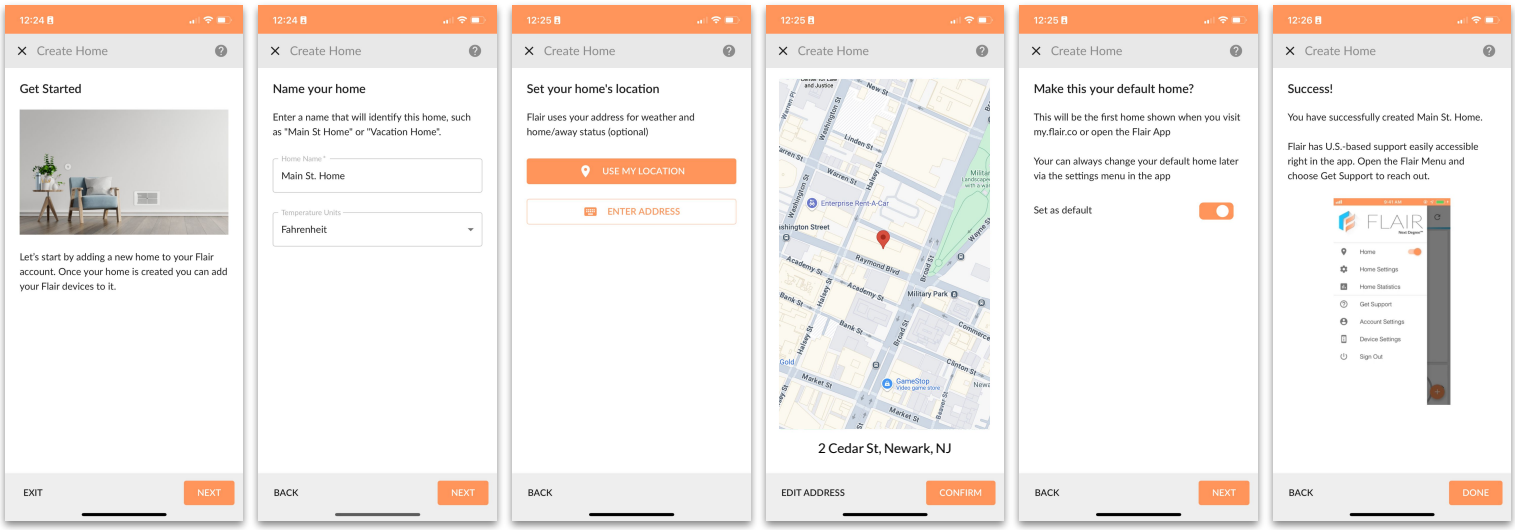
- **Step 1**
  Create a New Home
- **Step 2**
  Select System Type and Equipment Configuration
- **Step 3**
  Connect Your Bridge or Bridge Pro
- **Step 4**
  Configure Your Bridge Pro
- **Step 5**
  Add Puck Pros
- **Step 6**
  Add DHPs/Mini Splits
- **Step 7**
  Wire Bridge Pro
- **Step 8**
  Configure Staged Heating

3. Detailed Installation Guide

3.8 Step-by-Step Setup of Staged Heating with Bridge Pro

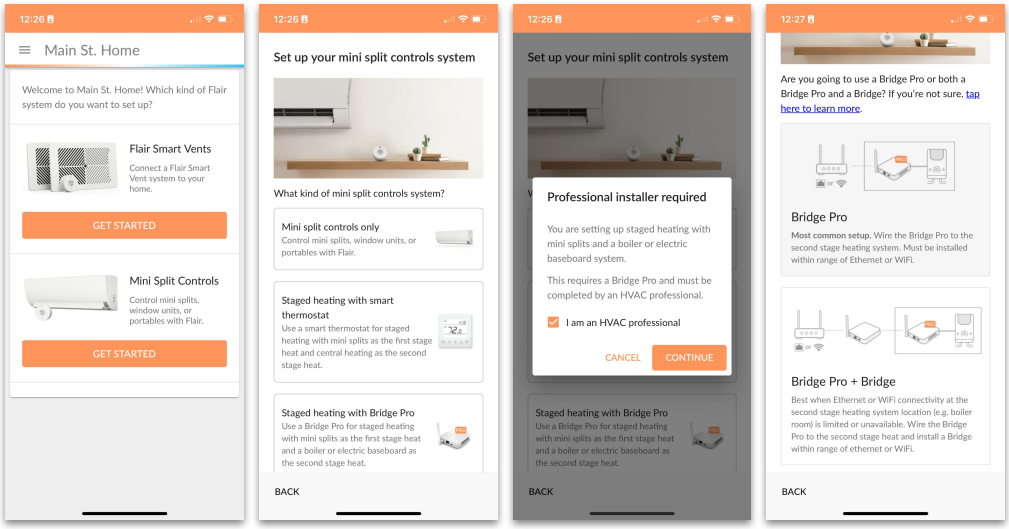
Step 1 - Create a New Home

A. You'll specify the home **name**, **temperature scale**, and **address**.
B. If this is the only Flair home on the users account, the home should be set as default.



Step 2 - Select System Type and Equipment Configuration

A. Select **Mini Split Controls** > **Staged Heating with Bridge Pro**.
B. If you are installing the system in a home > 2,500 sq. ft. or you are looking to user an ethernet connection that's not available near your Bridge Pro installation location, its recommended to use the **Bridge Pro + Bridge** configuration.



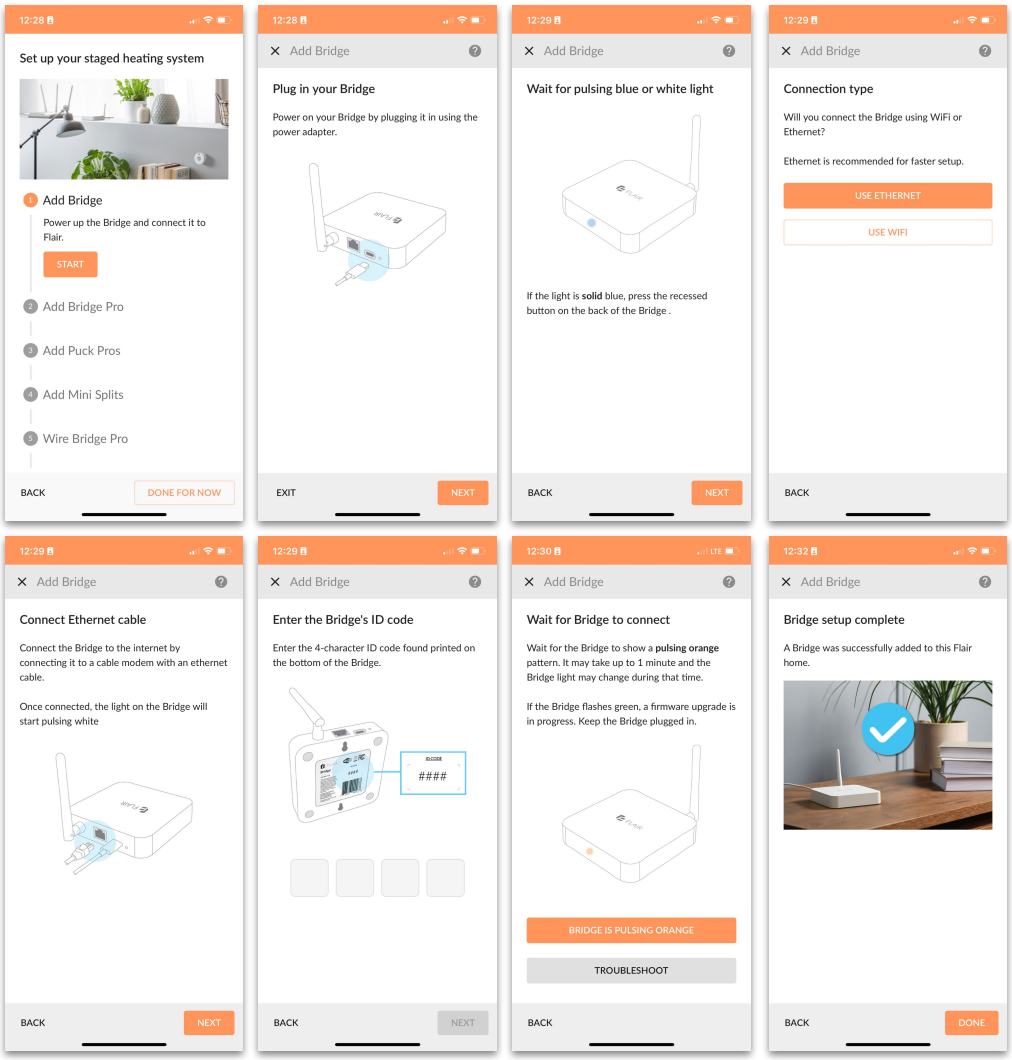
3. Detailed Installation Guide

3.8 Step-by-Step Setup of Staged Heating with Bridge Pro

Step 3 - Connect Your Bridge or Bridge Pro

A. Steps 1 and 2 depict a Bridge + Bridge Pro setup. If you selected Bridge Pro only, you will have a similar setup flow but for the Bridge Pro.

B. If you are installing the Bridge in a large home, it's recommended that you install it in a central location (ideally with access to an ethernet connection) and relative to the locations of Puck Pros.



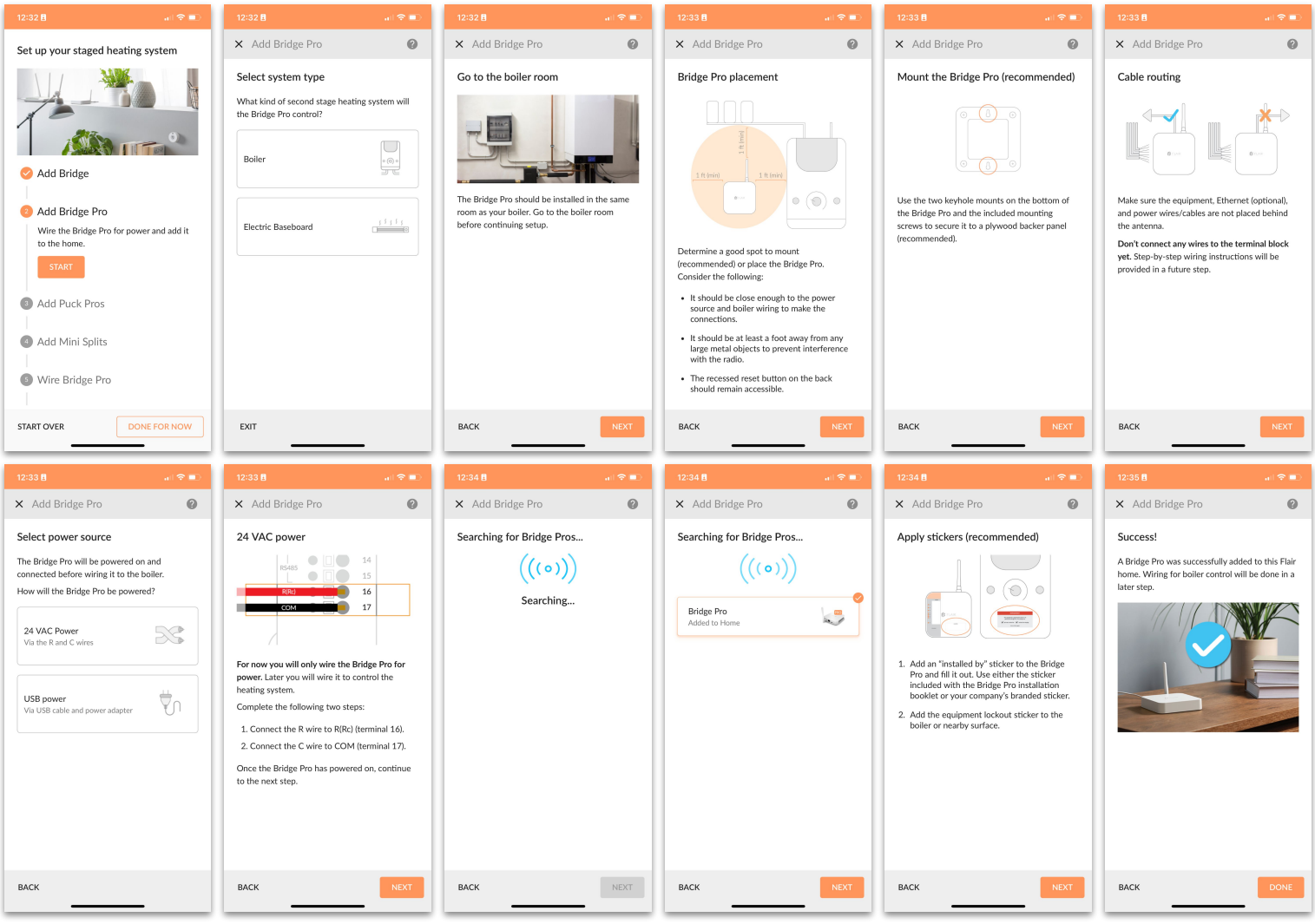
3. Detailed Installation Guide

3.8 Step-by-Step Setup of Staged Heating with Bridge Pro

Step 4 - Configure Your Bridge Pro

A. In this step, you'll specify the **equipment type** you are connecting the Bridge Pro to, you'll **mount** the Bridge Pro, determine how you will **power** the Bridge Pro (via 24 VAC or USB) and add some **stickers** to equipment for future service (particularly helpful for lockout configurations).

B. The above steps depict a Bridge + Bridge Pro setup. If you selected Bridge Pro only, you will have a similar setup flow after you have connected the Bridge Pro to ethernet/Wi-Fi and you won't see the 'Searching for Bridge Pros…' screens.

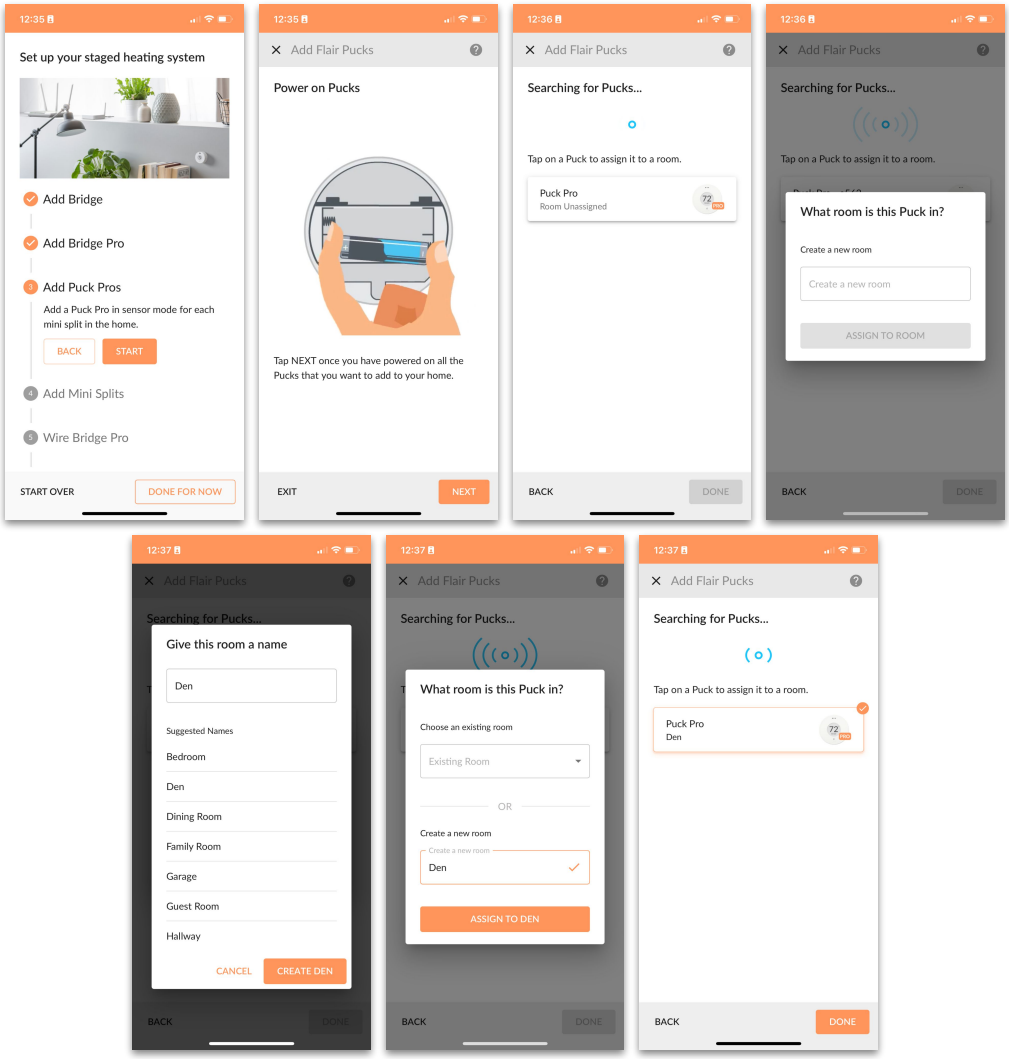


3. Detailed Installation Guide

3.8 Step-by-Step Setup of Staged Heating with Bridge Pro

Step 5 - Add Puck Pros

A. During this step, you will **discover** your Pucks and **assign** them to rooms. This process should be very quick. Please keep track of which Pucks you assign to which rooms.



3. Detailed Installation Guide

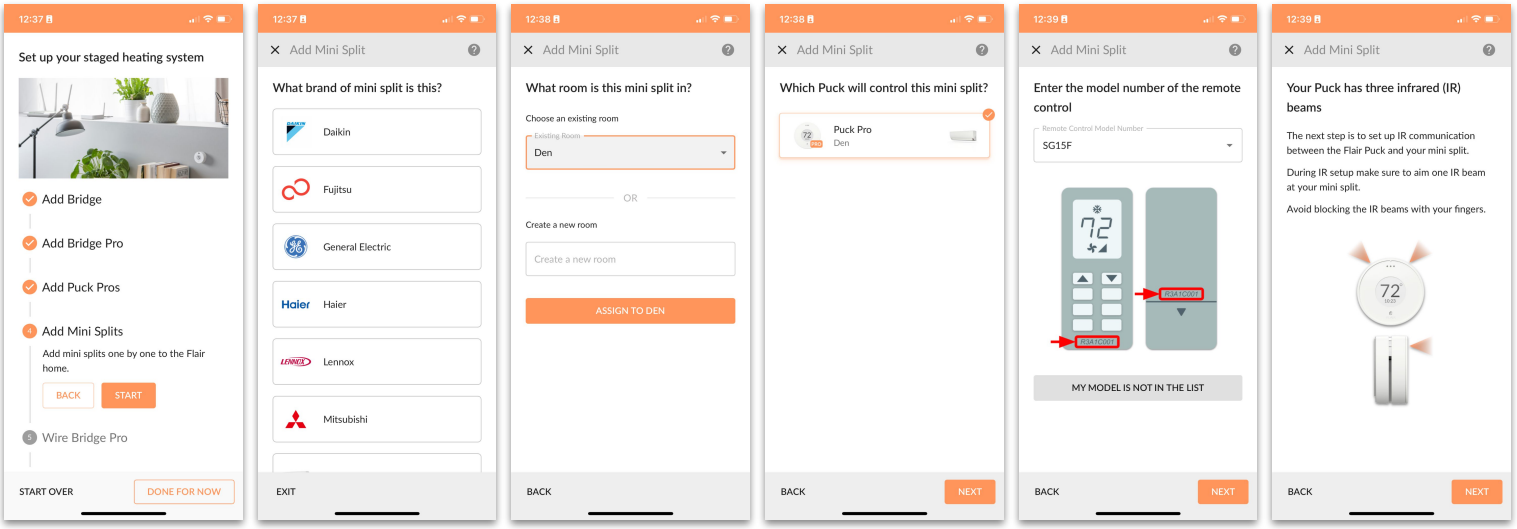
3.8 Step-by-Step Setup of Staged Heating with Bridge Pro

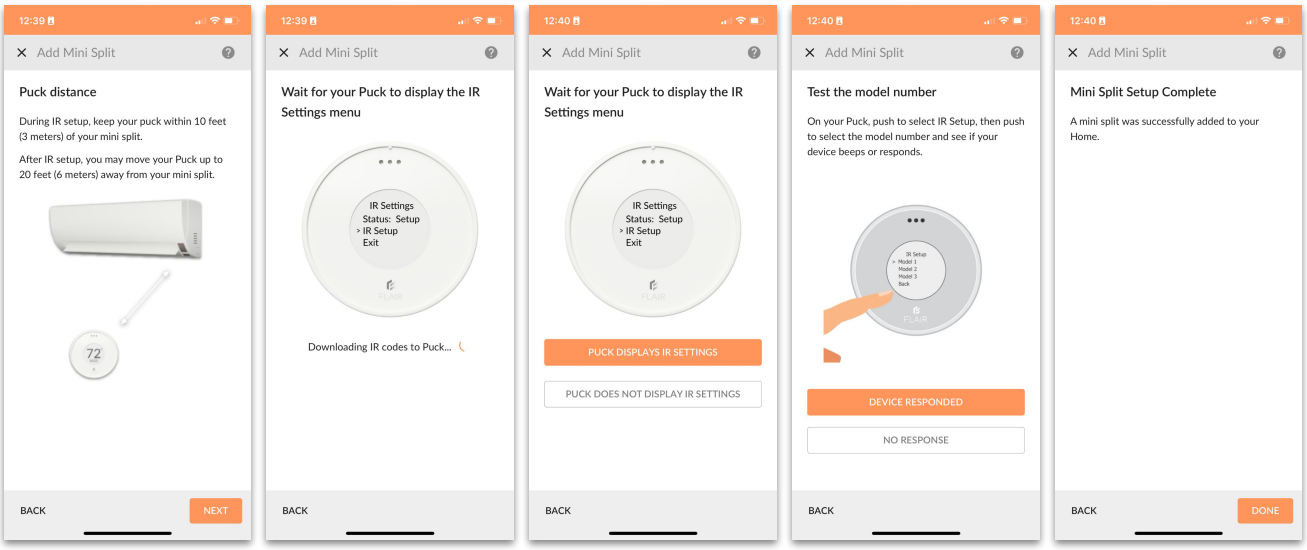
Step 6 - Add DHPs/Mini Splits

A. In this step, you will **add DHP(s)** and **designate Puck Pro(s)** to control it.

B. In most cases, the code on the back of the units handset is easily looked up in the Flair IR database however in some cases, you may need to test a number of codes to find a compatible codeset.

C. In the event that a compatible codeset can't be identified either through its handset data or through the manual testing process, you will want to contact the Flair support team.





Existing Flair Pro?
Login to the Pro Portal for contact information.

PRO PORTAL

flair.co/pros

Not yet a Flair Pro?
Complete the Pro registration and a member of our team will be in touch.

PRO REGISTRATION

flair.co/register

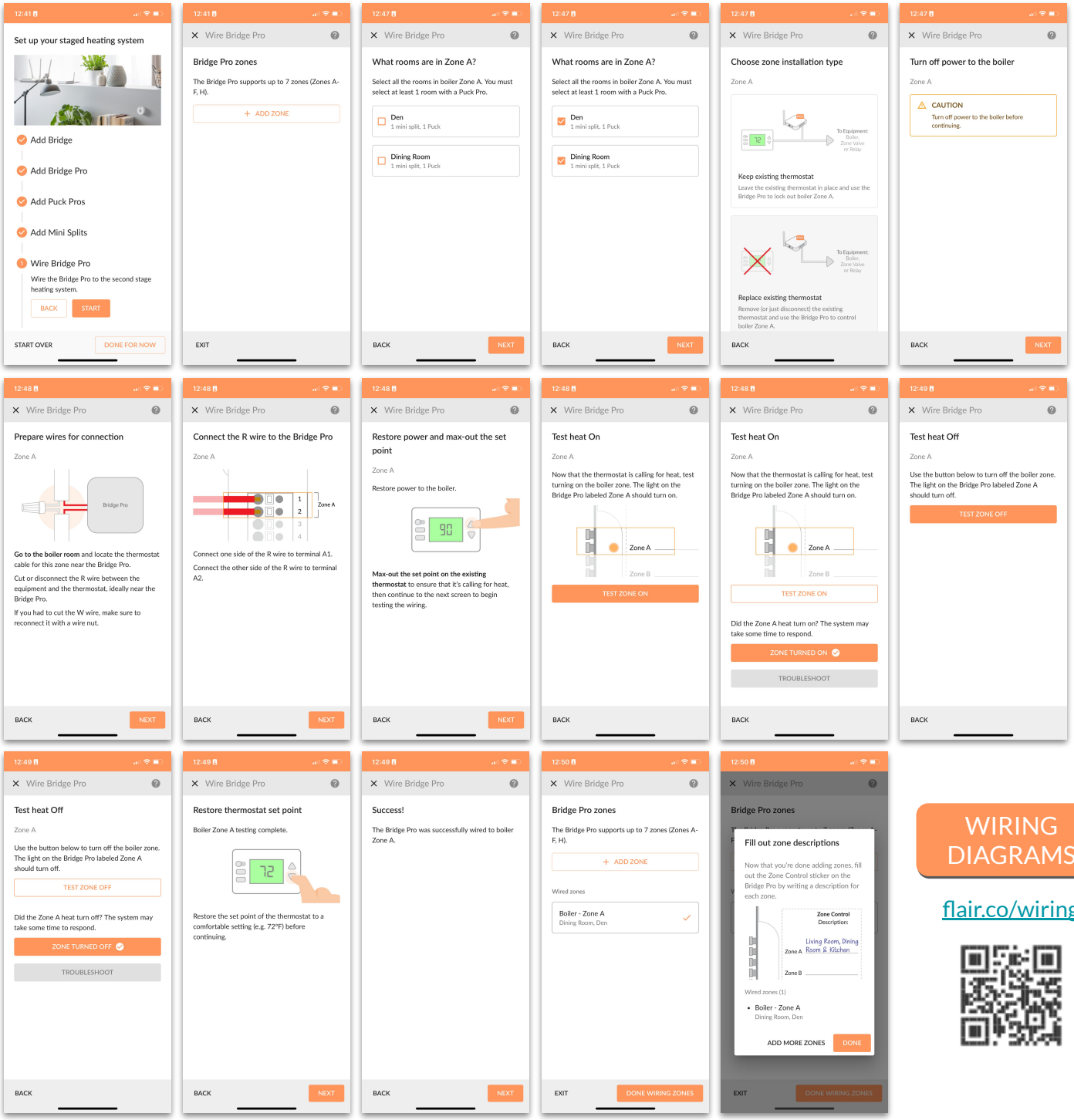
3. Detailed Installation Guide

3.8 Step-by-Step Setup of Staged Heating with Bridge Pro

Step 7 - Wire Bridge Pro

A. In this step, you will **wire** the boiler or electric baseboard zones to the Bridge Pro and test that each zone turns on and off as expected.

B. After each zone is wired you will be presented with two options. You can add more zones or select "DONE WIRING ZONES".



WIRING DIAGRAMS

flair.co/wiring

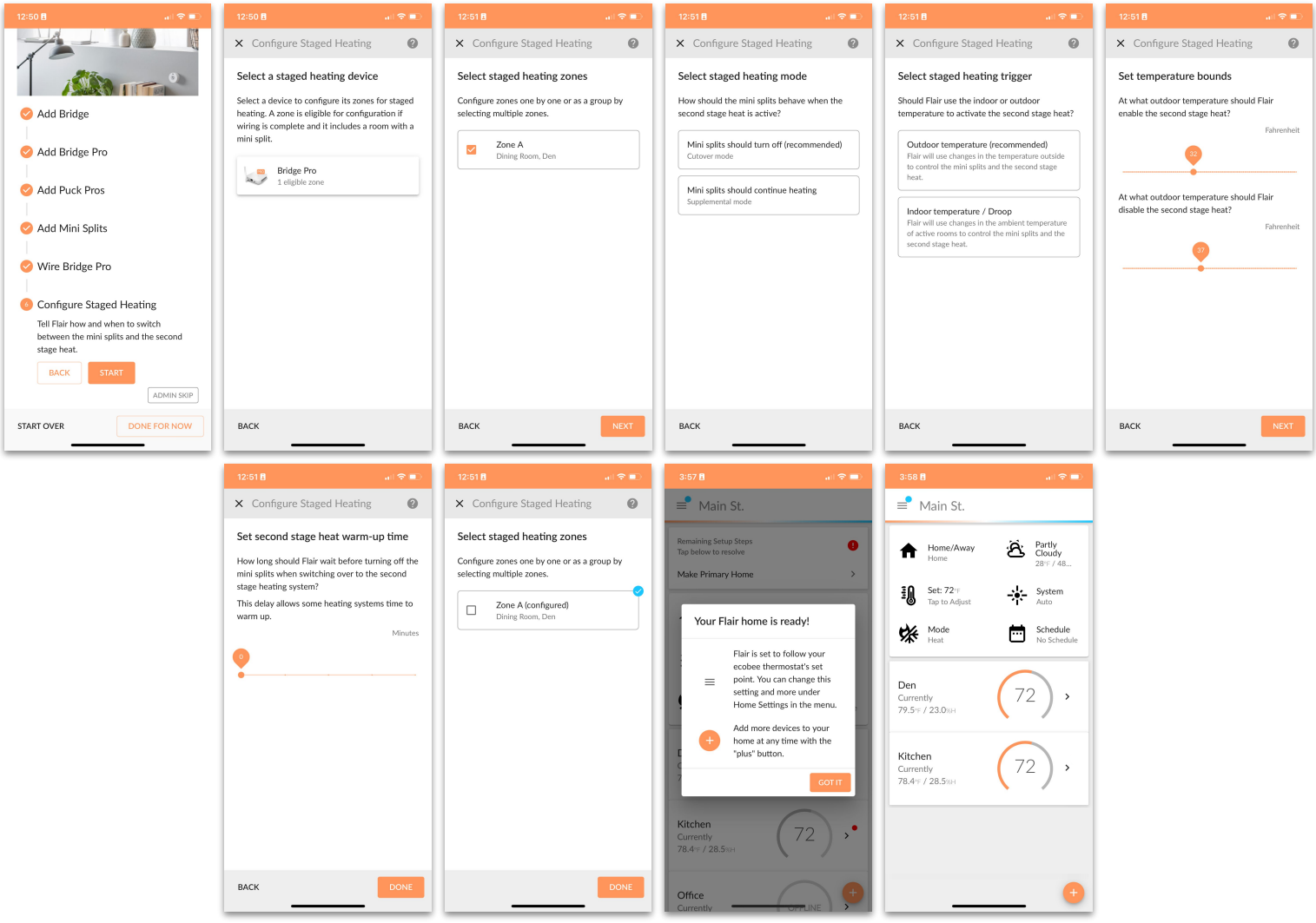
3. Detailed Installation Guide

3.8 Step-by-Step Setup of Staged Heating with Bridge Pro

Step 8 - Configure Staged Heating

A. In this step, you will be configuring the staging details for each boiler or electric baseboard zone. Specifically, you'll be selecting whether you want the **Cutover v Supplement,** whether you want to trigger staging on indoor or outdoor temperature (outdoor depicted), and warm up time for the second stage before locking out the first stage (if Lockout) if desired.

Once you have configured Staged Heating for each of the zones you created setup is complete and you will be taken to the Home Screen of the Flair App.



3. Detailed Installation Guide

3.9 Step-by-Step Setup of Staged Heating with Smart Thermostat

Solution 2: Puck Pro (First-Stage) with Smart Thermostat (Second-Stage)

Setting up your new home system involves a clear, step-by-step process to ensure seamless integration and functionality.
Following the steps on the following pages ensures a smooth setup of staged heating with smart thermostat(s).

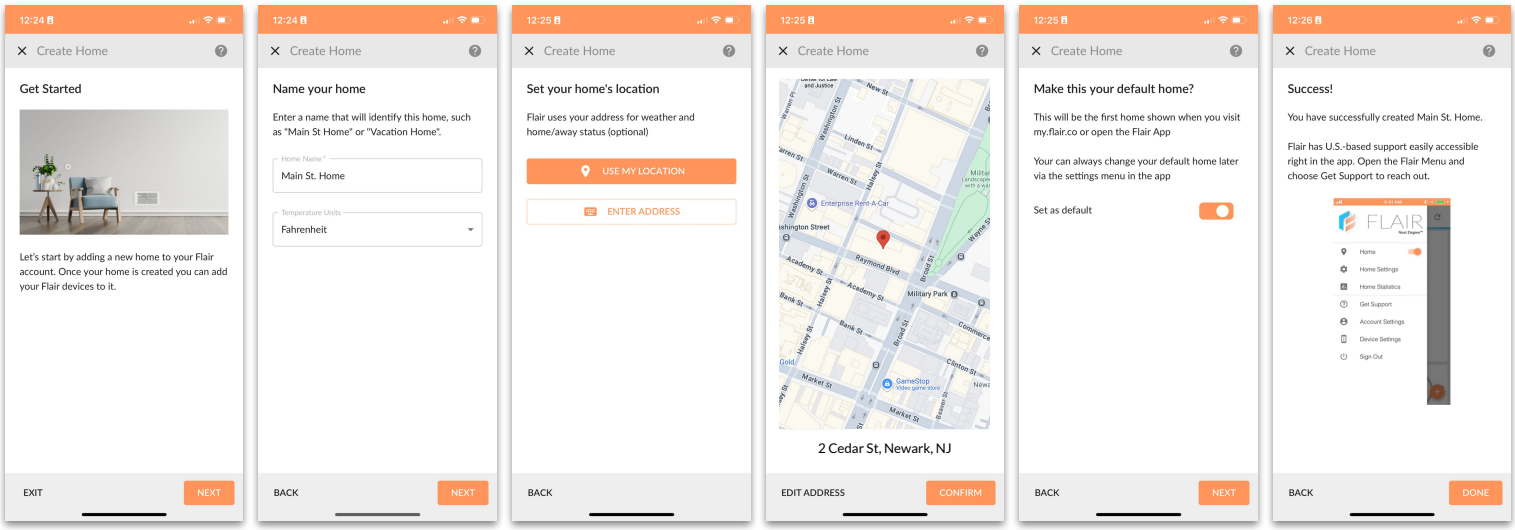
- **Step 1**
  Create a New Home
- **Step 2**
  Select System Type and Equipment Configuration
- **Step 3**
  Connect Your Bridge or Puck Pros
- **Step 4**
  Add Puck Pros
- **Step 5**
  Add DHPs/Mini Splits
- **Step 6**
  Integrate Smart Thermostat(s)
- **Step 7**
  Configure Staged Heating

3. Detailed Installation Guide

3.9 Step-by-Step Setup of Staged Heating with Smart Thermostat

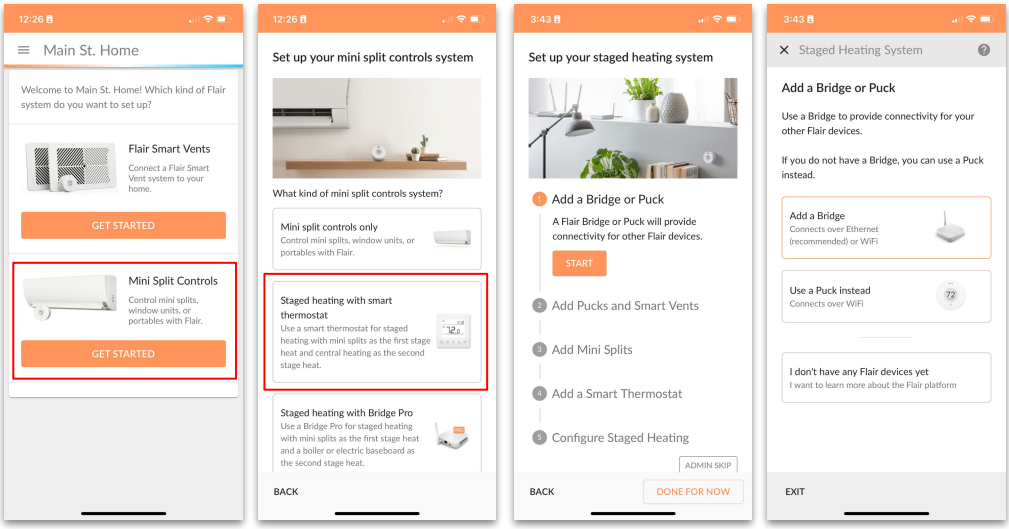
Step 1 - Create a New Home

A. You'll specify the **home name**, **temperature scale**, and **address**.
B. If this is the only Flair home on the users account, the home should be set as default.



Step 2 - Select System Type and Equipment Configuration

A. Select **Mini Split Controls** > **Staged Heating with smart thermostat**.
B. Hit **start**, and select whether you plan to use a Bridge with your Puck Pros (recommended) or whether you will use Puck Pros themselves as the system's connectivity/hub(s) (legacy).



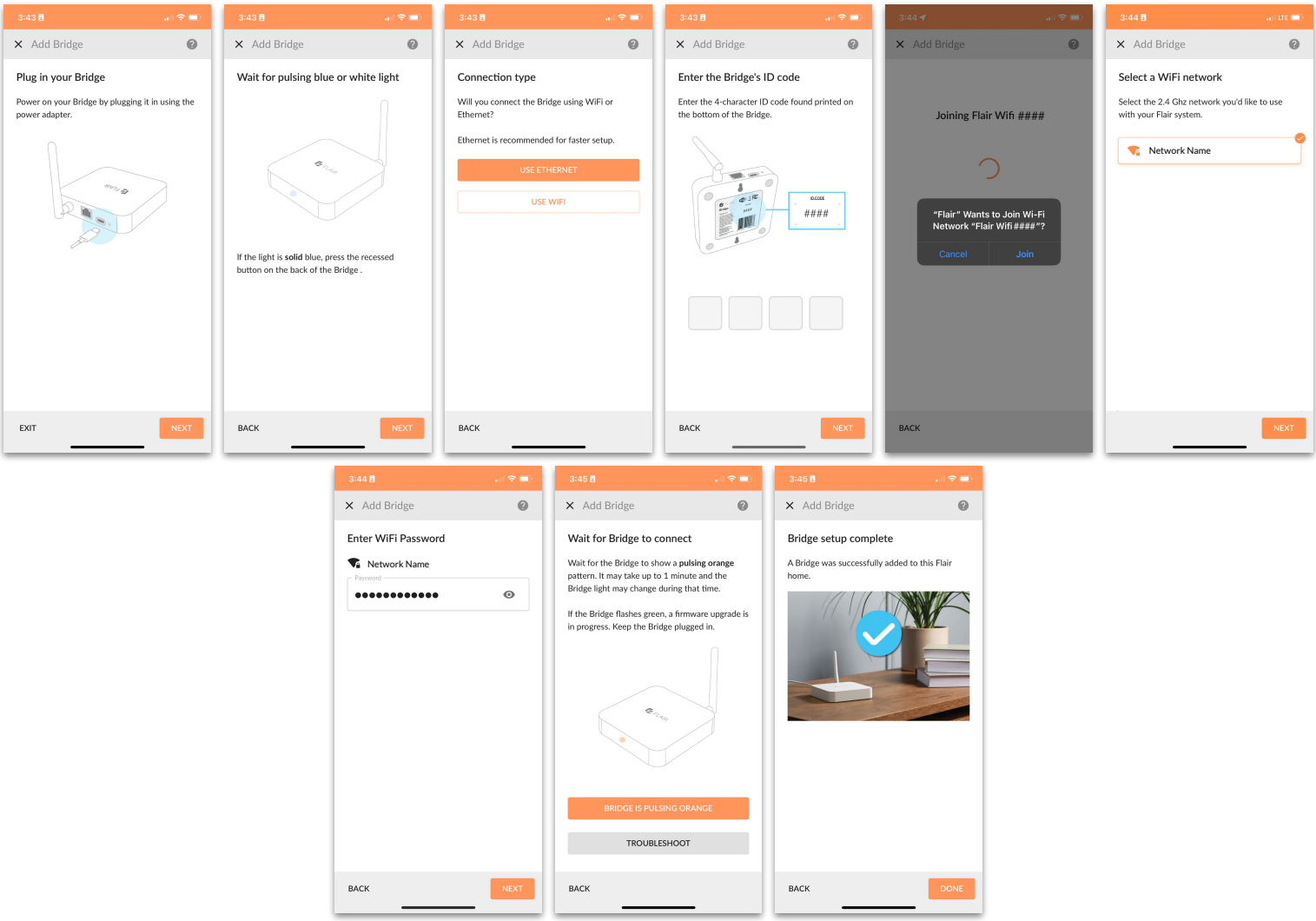
3. Detailed Installation Guide

3.9 Step-by-Step Setup of Staged Heating with Smart Thermostat

Step 3 - Connect Your Bridge or Puck Pro(s)

A. The above steps depict setting up a Bridge to Wi-Fi. The system can also be connected via ethernet (recommended).

B. If you are installing the Bridge in a large home, it's recommended that you install it in a central location (ideally with access to an ethernet connection) and relative to the locations of Puck Pro(s).

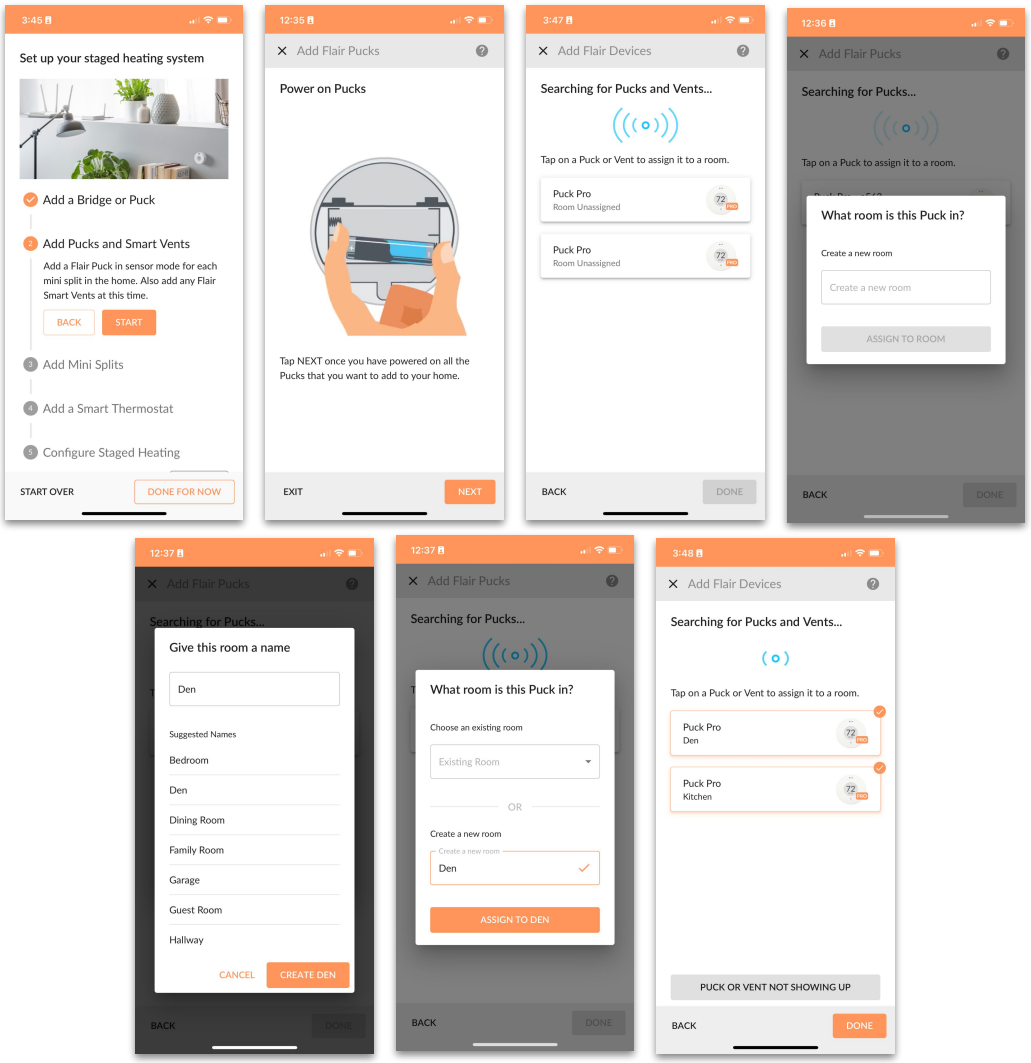


3. Detailed Installation Guide

3.9 Step-by-Step Setup of Staged Heating with Smart Thermostat

Step 4 - Add Puck Pros

A. During this step, you will **discover** your Pucks and **assign** them to rooms. This process should be very quick. Please keep track of which Pucks you assign to which rooms.



3. Detailed Installation Guide

3.9 Step-by-Step Setup of Staged Heating with Smart Thermostat

Step 5 - Add DHPs/Mini Splits

A. In this step, you will **add DHP(s)** and **designate Puck Pro(s)** to control it.

B. In most cases, the code on the back of the units handset is easily looked up in the Flair IR database however in some cases, you may need to test a number of codes to find a compatible codeset.

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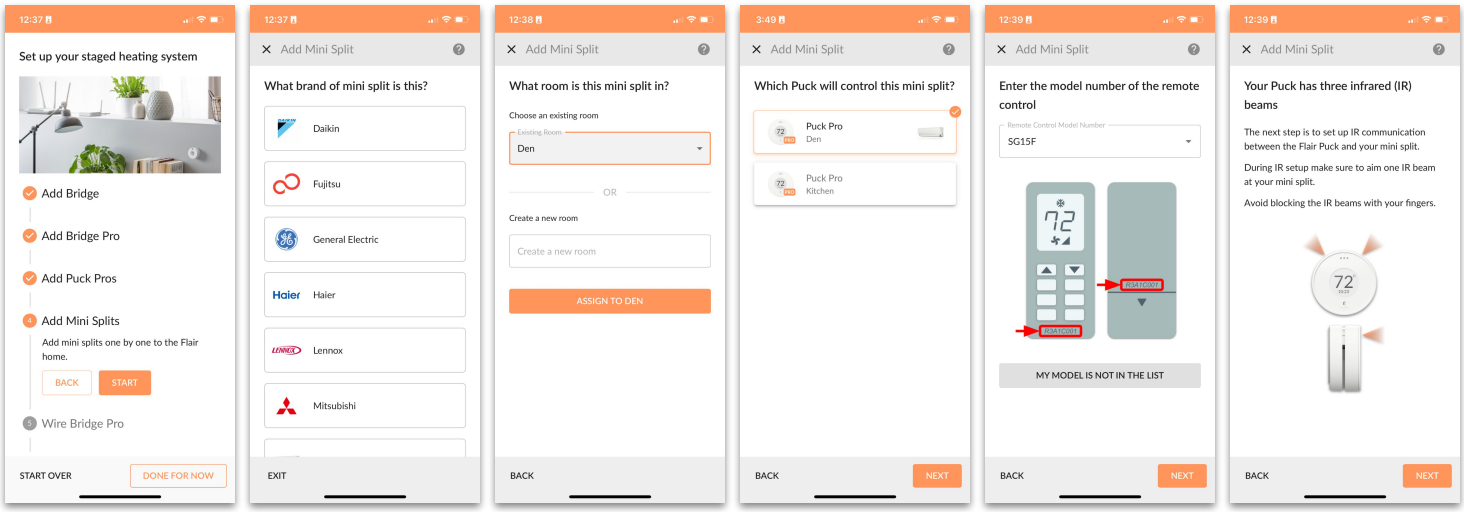

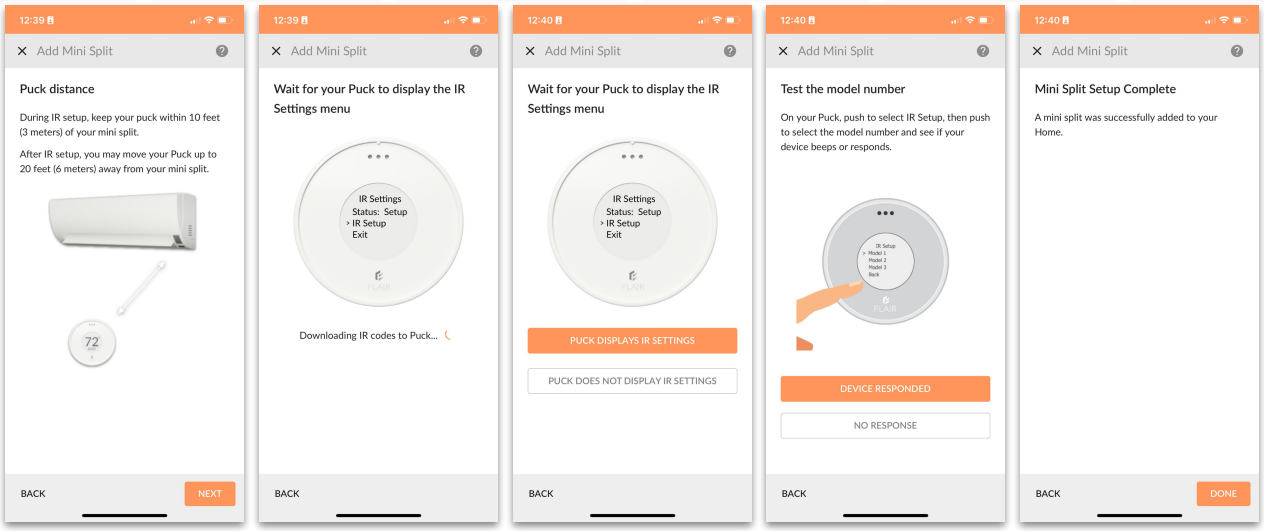

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PRO PORTAL
flair.co/pros

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PRO REGISTRATION
flair.co/register

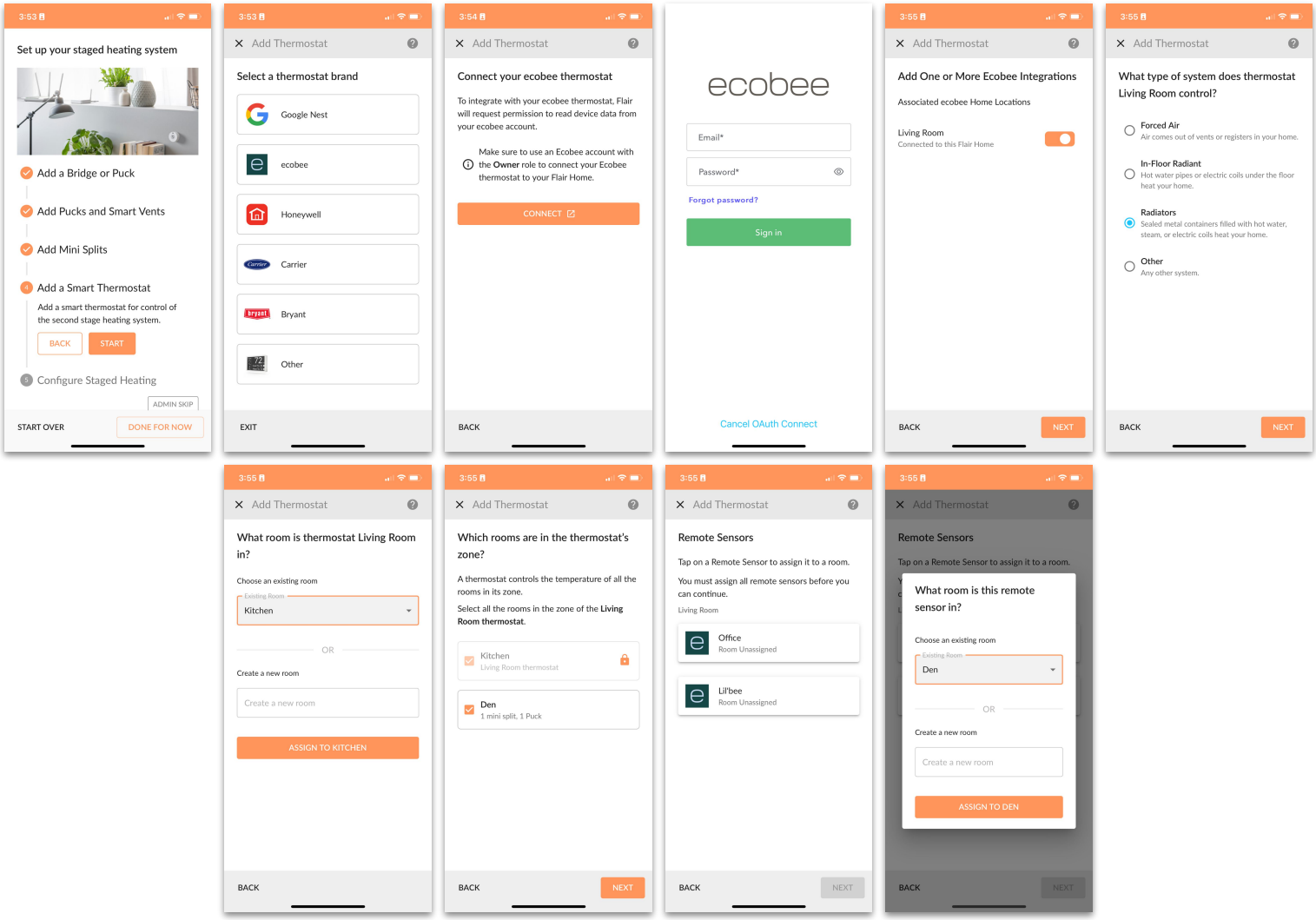
3. Detailed Installation Guide

3.9 Step-by-Step Setup of Staged Heating with Smart Thermostat

Step 6 - Integrate Smart Thermostat(s)

A. In this step, you will select your **smart thermostat brand**, integrate your **thermostat account**, select the **heating type**, and **assign** the thermostat(s) and remote sensors (if any) to their respective rooms.

B. You'll additionally associate existing or new rooms with the thermostat(s) **zone(s)**.



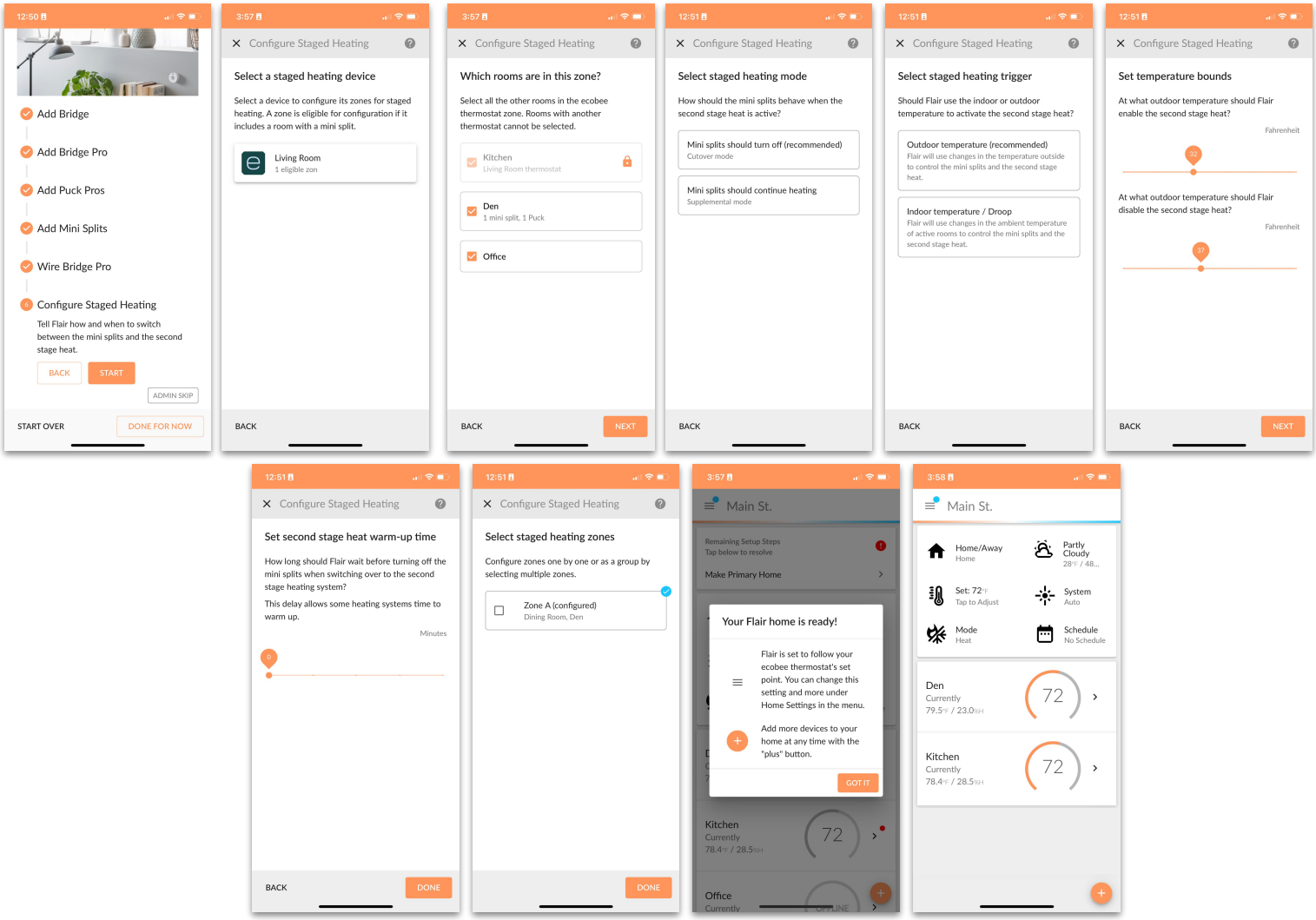
3. Detailed Installation Guide

3.9 Step-by-Step Setup of Staged Heating with Smart Thermostat

Step 7 - Configure Staged Heating

A. In this step, you will be configuring the staging details for each smart thermotat. Specifically, you'll be selecting whether you want the **Cutover v Supplement,** whether you want to trigger staging on indoor or outdoor temperature (outdoor depicted), and warm up time for the second stage before locking out the first stage (if Lockout) if desired.

Once you have configured Staged Heating for each of the zones you created setup is complete and you will be taken to the Home Screen of the Flair App.



4. Operation Guide

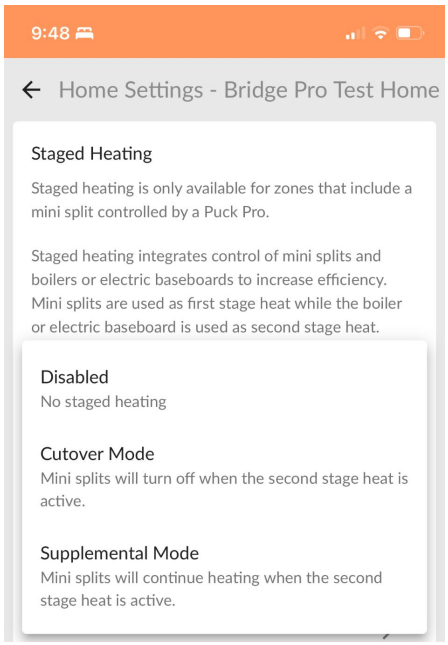
The operation guide of this user manual provides comprehensive instructions for effectively managing your system's modes and controls.

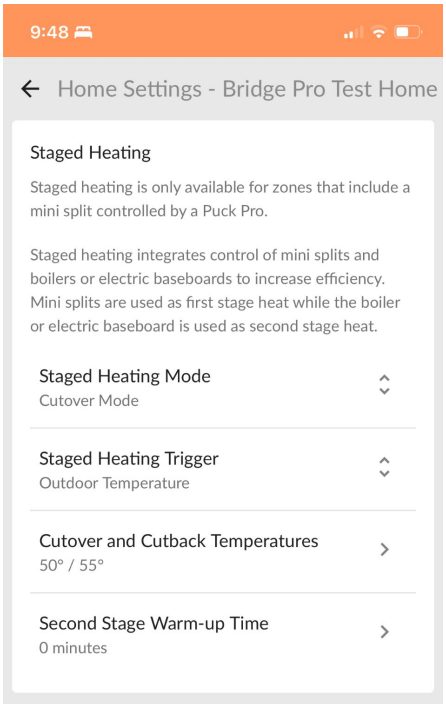
- **Cutover v Supplemental Heating Modes**
- **Indoor and Outdoor Temperature Stage Trigger Considerations**
- **Using the Flair App for Control**
  - Basic Control - Home Screen and Room Tiles
  - Active/Inactive Rooms
  - Room Temperature Holds
  - Auto Dry Mode
  - Schedules
  - Smart Away
  - RoomSense™
- **Using the Flair Puck Pro for Control**
- **Troubleshooting and Maintenance**

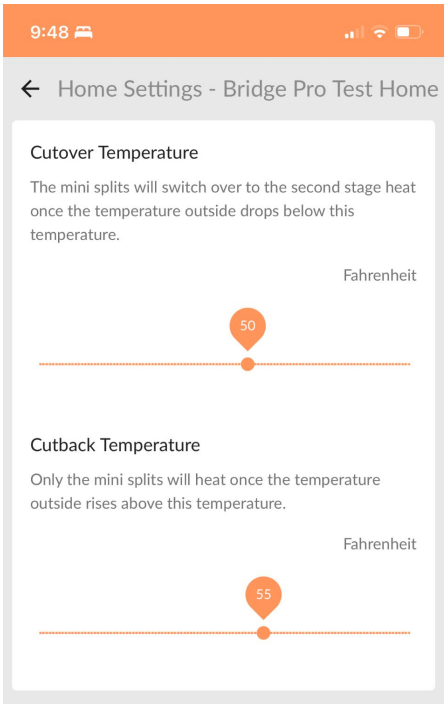
4.1 Understanding Staged Heating System Behavior

Cutover v Supplemental Heating Modes

Flair's staged heating system optimizes comfort and energy efficiency by intelligently managing the transition between first-stage and second-stage heating. The system operates in either **cutover** mode or **supplemental** mode based on indoor and outdoor conditions. Understanding these modes ensures effective operation and proper configuration. All of these settings can be managed in the Flair App (Home Settings -> HVAC Systems).







Cutover Mode

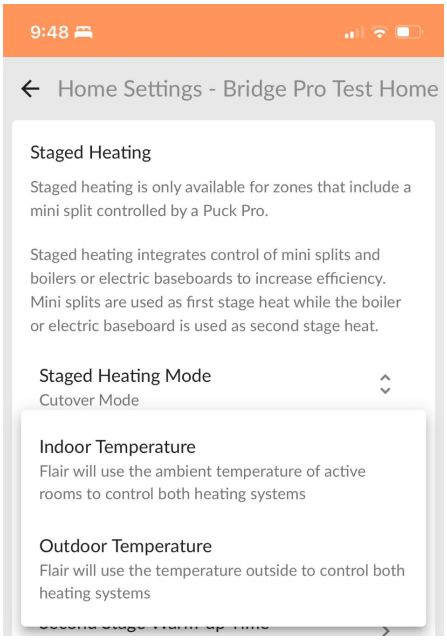
- *Operation*: The system completely switches from the primary heating source (DHP) to the secondary heating source (boiler or electric baseboard heater) when in the second stage.
- *Purpose*: Used when the DHP is not as efficient or cost effective at very cold temperatures.

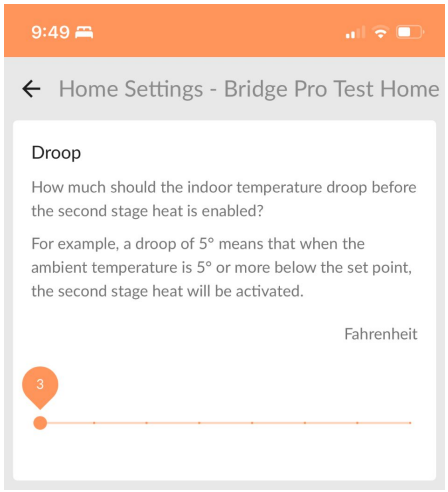
Supplemental Mode

- *Operation*: The secondary heat source operates alongside the DHP, adding extra heating capacity as needed.
- *Purpose*: Used when the DHP alone may not maintain the indoor temperature setpoint but the DHP operates efficiently at very cold temperatures.

4.1 Understanding Staged Heating System Behavior

Indoor and Outdoor Temperature Stage Trigger Considerations





Outdoor Temperature (Recommended)

The most common configuration to determine which stage the system should operate is the Outdoor Temperature Trigger. This uses an outdoor temperature pulled from online sources, providing simple and predictable stage changes.

- *Configuration*: Set the **Cutover and Cutback Temperatures** in the Flair app to specify when the system transitions to the secondary heat source.

Indoor (Droop) Temperature

If indoor temperatures drop below the setpoint(s) by more than the “Droop” setting, the system engages the secondary heat source. This configuration minimizes second stage heating usage but can lead to temporary cold ‘droops’ before the second stage heat has brought the room(s) back to setpoint.

- *Configuration*: Set the **Supplemental Heat Enable and Disable Temperatures** to determine when the secondary heat source assists the DHP..

4.2 Using the Flair App for Control

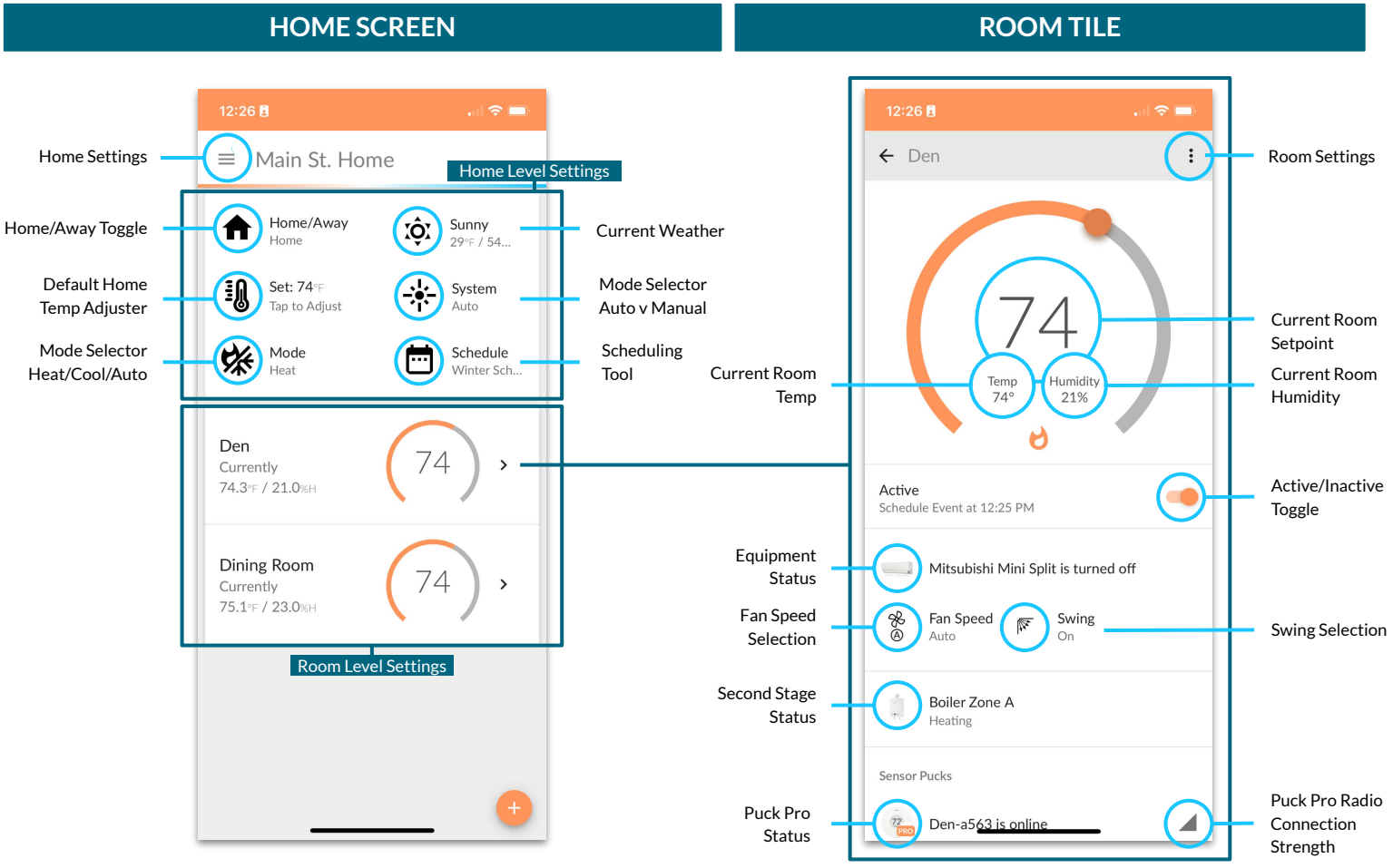
iOS, Android, and Desktop

Download on the App Store — flair.co/ios

GET IT ON Google Play — flair.co/android

Use the Flair Web App — my.flair.co

Basic Control - Home Screen and Room Tiles



4.2 Using the Flair App for Control

Active / Inactive Rooms

MORE INFO
flair.co/set-rooms

To set a room or home as **active or inactive** on the Flair app, you can either toggle the "Active" switch directly on the room tile within the app, use a schedule to set specific active/inactive times for rooms, or change your overall home status to "Home" (active) or "Away" (inactive), which will affect all rooms accordingly; you can also utilize remote sensor occupancy if your thermostat supports it to automatically adjust room activity based on presence detection.

Key points about setting rooms as active/inactive on Flair:

- **Setting Active/Inactive via Direct toggle:** Navigate to the room you want to adjust in the app and use the "Active" switch on the room tile to set it as active or inactive.
- **Scheduling Active/Inactive:** Creating a schedule within the Flair app can automatically set rooms as active or inactive at specific times of the day.
- **Home/Away Mode Impact on Active/Inactive:** Setting your home status to "Home" will generally make all rooms active, while "Away" will set them as inactive.
- **Remote Sensor Occupancy Feature:** If your thermostat has integrated occupancy sensors, you can enable this feature in the Flair settings to have rooms automatically adjust based on whether someone is present.

Room Temperature Holds

MORE INFO
flair.co/room-holds

A room hold is created when a change is made to the room by interaction with the Flair App or directly on the Flair Puck. Holds are created as a result of:

- a change to the room's set point
- a change to the Active/Inactive status of the room

To set a room temperature hold in the Flair app, simply navigate to the desired room in the app, then drag the temperature slider to your desired set point; this will automatically create a room hold at that temperature setting. You can also identify an active room hold by looking for the "hold" indicator on the room tile. A visual indicator will appear on the room tile to show that a hold is currently active

Auto Dry Mode

MORE INFO
flair.co/auto-dry-mode

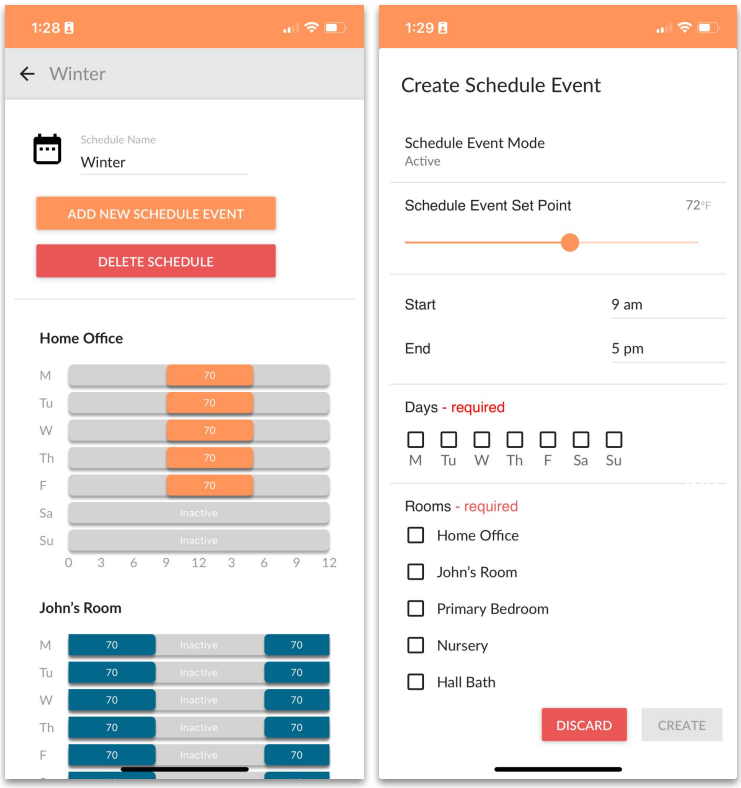
"Flair Auto Dry Mode" refers to a setting on a Flair Puck Pro that automatically activates the "Dry Mode" function on your DHP when the room humidity reaches a pre-set maximum level, effectively dehumidifying the air without significantly changing the room temperature, making the space feel more comfortable by reducing excess moisture.

4.2 Using the Flair App for Control

Schedules

MORE INFO
flair.co/scheduling

To create and manage schedules on the Flair app, open the app, navigate to the "Schedule" section in the control bar, select "Create New Schedule," then define the schedule name, add individual schedule events with start/end times, choose the days of the week to apply the schedule, select the rooms you want to include, and finally, tap "Done" to save your schedule; you can edit existing schedules by accessing them from the Schedule tab.



Key steps:

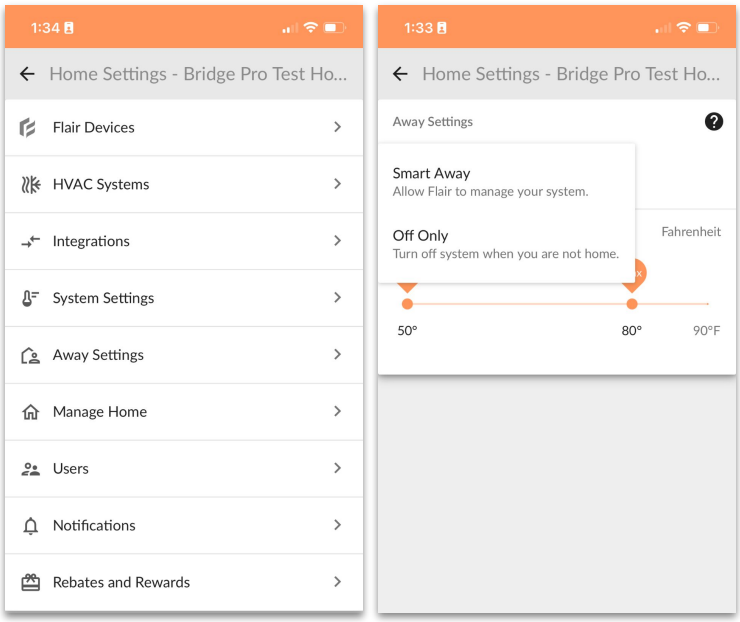
- **Access the Schedule tab:** Open the Flair app and go to the "Schedule" option in the control bar.
- **Create a new schedule:** Select "Create New Schedule".
- **Name your schedule:** Enter a descriptive name for your schedule.
- **Add schedule events:**
    - Click "Add New Schedule Event"
    - Set the start and end time for the event
    - Choose the days of the week the event should occur
    - Select which rooms the event should apply to
- **Set temperature settings:** Adjust the desired temperature for each schedule event.
- **Save the schedule:** Click "Done" to finalize your schedule.

4.2 Using the Flair App for Control

Smart Away

MORE INFO
flair.co/smart-away

"Flair Smart Away" is a feature on the Flair smart home system that automatically adjusts your home's temperature when you're not home, preventing it from getting too hot or too cold, typically by turning off your HVAC system while maintaining a safe temperature range to protect pets, plants, or prevent pipes from freezing, even when you're away; essentially, it's a "smart away mode" that prioritizes comfort and energy efficiency while you're not present.



To access the Smart Away feature in the Flair app, go to *"Home Settings"* > *"Away Settings"*; this is where you can configure the settings for when you are away from home, allowing Flair to adjust your climate control accordingly. When enabled, Smart Away will automatically adjust your heating and cooling based on your absence, often by setting rooms to "Inactive" to maintain a comfortable temperature while you're away.

Key points about Flair Smart Away:

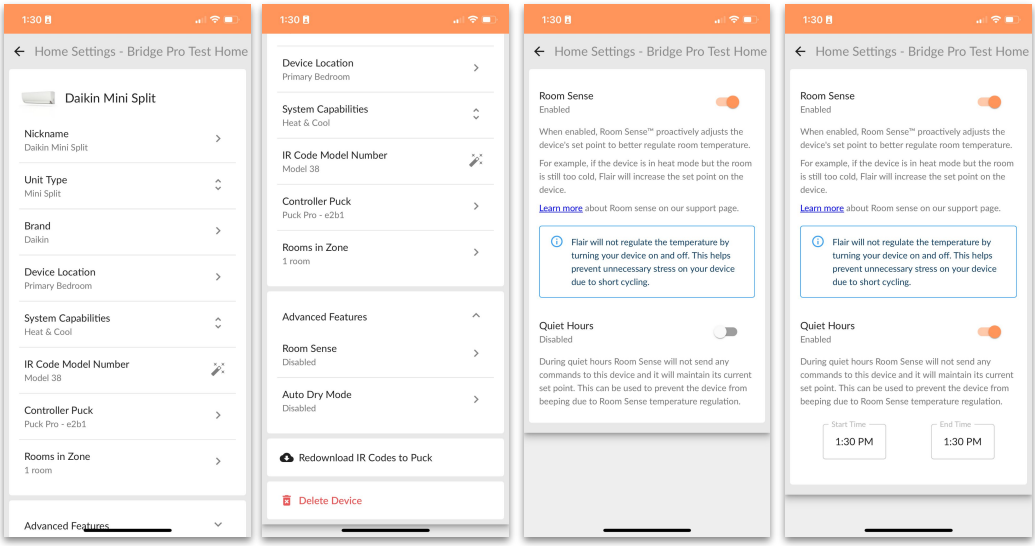
- **Geofencing option:**
  You can choose to use your phone's location to automatically trigger Smart Away when you leave your home so your home automatically switches to "Away" mode when you leave and back to "Home" when you return.
- **Automatic temperature control:**
  When you set your Flair system to "Away" mode, it automatically adjusts the temperature in your home to a preset range, preventing extreme temperatures while you're gone.
- **Safety features:**
  It can kick back on the HVAC system if the temperature in a room gets too far outside the set safety bounds, even when in "Away" mode.

4.2 Using the Flair App for Control

Room Sense™

MORE INFO
flair.co/room-sense

Flair's "Room Sense" feature looks at the temperature reading at the Puck compared to the rooms setpoint, learns any difference between the two, and adjusts the DHPs setpoint accordingly to more accurately hit that rooms setpoint. This feature is ideal for scenarios where the DHPs temperature accuracy or reading location is inadequate which can occur when a DHPs sensors are working well, when the wall its mounted on has poor insulation, or when the DHP indoor unit itself is installed in atypical location.



To access the "Room Sense" feature in the Flair app, go to *HVAC Systems*, then select the specific device you want to regulate with Room Sense, go to *"Advanced Features"* and click on *"Room Sense"*, then toggle on the feature; this will allow Flair to adjust the set point on your mini split based on the room temperature to maintain your desired comfort level as measured by the Puck. When Room Sense is turned off, Flair will simply hand off your set point regulation to your DHP.

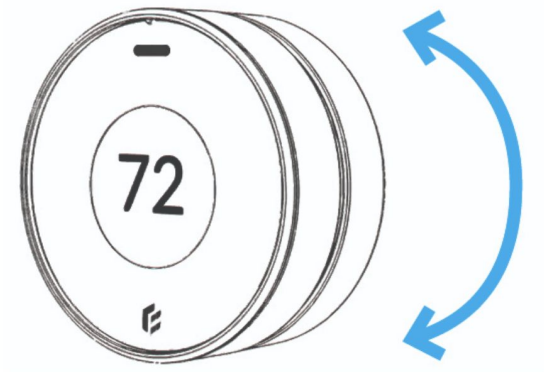
Key points about Flair Room Sense™:

- **Accurate temperature reading:**
  Reads the temperature at the Puck instead of the DHP and adjusts the DHPs setpoint automatically to account for differences between the setpoint and the actual temperature.
- **Ideal when DHPs don't reliably hit their setpoints:**
  While not recommended if a DHP reliably hits its setpoint, this feature is highly useful when a DHP is unable to accurately hit the setpoints its provided due to placement, calibration, insulation, etc.

4.3 Using the Flair Puck Pro for Control

The Puck Pro works like a remote control, sending Infrared (IR) commands to the DHP. It must be in line-of-sight of the the DHP. and has a typical range of up to 15 feet.

The Puck Pro is battery powered and has Wi-Fi and 915 MHz radio frequency communication capability to enable a fully wireless control experience in the home, but can also be powered through a USB adapter if preferred.



Your Flair system can be controlled with the Flair Application or Puck Pro. It is recommended to use the Flair Application for advanced control settings while the Puck Pro allows for quick adjustments to the room's setpoint temperature or changing the rooms 'Active/Inactive' status.

Controlling the Puck is simple. You can push the front surface or rotate the collar.

For example, to change the setpoint temperature for a room, you can rotate the Puck Pro. You can also set a room as 'Inactive' via the Puck Pro by pushing once, rotating to the 'Turn Off' screen, and pushing once more.

The Flair Puck Pro included three (3) IR transmitters:

- Two (2) on the sides of the device at 10 and 2 O'Clock
- One (1) on the face at 12 O'Clock

4.4 Troubleshooting & Maintenance

Useful Setup Tips

FLAIR SUPPORT
flair.co/support

- **Use Puck Pro**: Ensure all Pucks in the system are Puck Pros. (One Puck Pro DHP head unit).
- **Use Mode Lock for multiple DHP heads**. Tap the Flair menu and go to Home Settings->System Settings and tap "*Lock IR Device Modes*"
- **Ensure proper line of sight between Puck Pros and DHPs**. Test sending commands by setting the system set to "*Manual Mode*" via the home screen.
    - If Flair is not controlling the DHP as expected, ensure the Puck Pro's location is in line of sight and within 15' of the Infrared (IR) receiver on the mini split head unit.
    - Try repositioning the Puck Pro and test again, ensuring IR blasters are not being blocked by fingers or other objects.
    - If you were unable to find an exact code set match for the remote control, contact Flair support.
- **Inform the homeowner of best practices** when issuing commands from the Puck Pro:
    - Be sure not to block the Puck's IR signal blasters.
    - While normally faster, commands may take up to 60 seconds to be take effect.
    - If Pucks are free-standing and not affixed to a wall, place them in the same location after issuing a command. Marking the location can be helpful.

Connectivity

Flair device-to-device communication uses 915MHz Radio Frequency (RF) communications. Ensure that good signal strength for all Flair devices (above -75dB). In the Flair app, tap the Flair menu and go to Home Statistics to see signal strength.

- To boost signal strength, ensure the Bridge/Bridge Pro is not blocked by large metal objects or near devices that emit signal interference.

Firmware Updates

Flair periodically releases firmware updates to add features, improve security, or resolve issues. Firmware updates are downloaded over WiFi and only take a few seconds to install. When a new firmware version is available, you will be notified via email. These updates will only download and install after your click a link to confirm installation.

- Firmware updates require WiFi. In some instances, Flair's radio range can be larger than the range of most WiFi networks. This means that a Puck may operate normally, but may be unable to download firmware updates. Temporarily moving a Puck closer to your WiFi router can help. Make sure your Pucks are within WiFi range before starting the firmware update process. For systems without WiFi (like ethernet connected systems), you may need to move Puck's closer to the Bridge
- For your Pucks to receive a firmware update they must be discovered and online in your Flair home and must be assigned to a room. If you have Pucks that are not normally assigned to a room you can assign them to a room temporarily for the OTA firmware update.

FLAIR SUPPORT
flair.co/support

What happens in an internet outage?

During an internet outage, whether a loss of Wi-Fi, Ethernet, or the internet connection itself, Flair's staged heating system will use its Indoor droop mode to determine staging. Upon restoration of internet connectivity, prior settings will be automatically resumed.

My Puck Pro(s) is going offline/doesn't have a stable connection, what should I do?

If the system is Bridge Pro Only, then you may need to add a Bridge. For this, see section 3.5 for adding a Bridge to a Bridge Pro Only system.
If you already Bridge + Bridge Pro configuration, you may want to try moving your Bridge to a more centralized location, free from any nearby large metal objects. If that doesn't work, you can add and additional Bridge to your system using the '+' button on the App's homescreen.

What happens when a Puck Pro loses its connection to a Bridge or Bridge Pro?

When a Puck Pro loses its connection to a Bridge or Bridge Pro, it's most likely a result of a radio link disconnection (out of range, Factory Reset, 'Forget Gateway') or a loss of power (batteries or usb).
When a staged heating system is in 'Lockout' mode, the system will unlock the second stage zone(s) if all Pucks within the second stage's zone are offline, deferring to the legacy thermostat for that zone.
When a staged heating system is in 'Controller' mode, the system will leave the second stage locked.

Do I need to install anything in the head unit?

No. Flair connects to DHPs the same way as the handset/remote provided with the unit, avoiding the need for additional connections or inserts.

Will Flair interfere with the heat pumps performance/inverter?

No. Because Flair connects to DHPs the same way as the handset/remote, the DHPs performance is left entirely intact.

What if your DHP/Remote is not in Flair's system?

Flair works with any system controlled by and IR remote, the standard for DHPs. Occasionally, a new DHP remote or model may be in market and Flair has yet to add the brand or model to our IR remote database. Contact Flair support who can quickly either borrow or source a remote and get it added to the system.

6. Additional Resources

For Flair Pros

PRO MARKETING CENTER

flair.co/promarketing

PRO TRAINING CENTER

flair.co/protraining

INSTALLATION VIDEOS

flair.co/installation-videos

WIRING DIAGRAMS

flair.co/wiring

CONTACT FLAIR

For dedicated dealer phone and email support, login or register.

Existing Flair Pro?
Login to the Pro Portal for contact information.

Not yet a Flair Pro?
Complete the Pro registration and a member of our team will be in touch.

PRO PORTAL

flair.co/pros

PRO REGISTRATION

flair.co/register

For Homeowners

HOMEOWNER GUIDE - STAGED HEATING

flair.co/homeowner-guide-staged-heating

HOMEOWNER - SUPPORT EMAIL

support@flair.co

Apps

Download on the App Store

flair.co/ios

GET IT ON Google Play

flair.co/android

Use the Flair Web App

my.flair.co