

XR724 Touchscreen Comfort Control



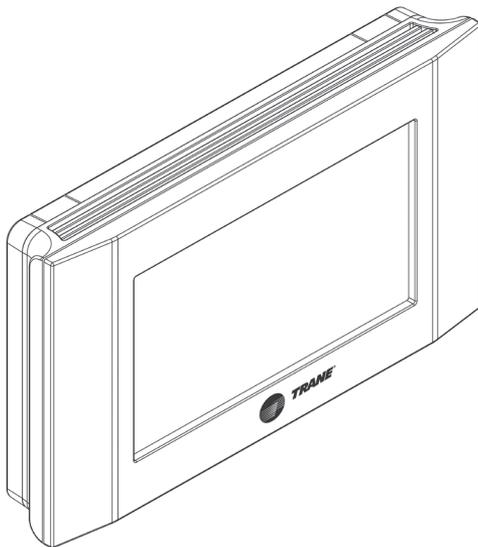
Model TCONT724AS42DA

User Guide and Installation Instructions

Nexia Smart Home
Comfort System
Customer Service:
(877) 288-7707

**For HVAC related
issues, contact your
servicing dealer**

→ NOTE: A 24 Volt
common and hot wire **MUST**
be connected to
the XR724 for
operation.



Contents

User Guide

| | |
|-------------------------------------|---|
| Features | 2 |
| Operation | 3 |
| User settings | 4 |
| Schedules | 5 |
| Display settings | 5 |
| Sensor settings | 5 |
| WiFi settings | 6 |
| Nexia settings | 6 |
| Installer settings | 7 |
| Test Mode | 7 |
| Reminders | 8 |
| Restore Defaults | 8 |
| About | 8 |
| Clean Screen | 8 |
| Nexia Mobile App Instructions | 9 |

Installer's Guide

| | |
|-------------------------------|----|
| Product Specifications | 16 |
| Installation and Wiring | 17 |
| Physical Location | 17 |
| Field Wiring Diagrams | 18 |
| Remote Temp Sensors | 35 |
| Troubleshooting | 37 |
| FCC/IC notice | 38 |

XR724 Features

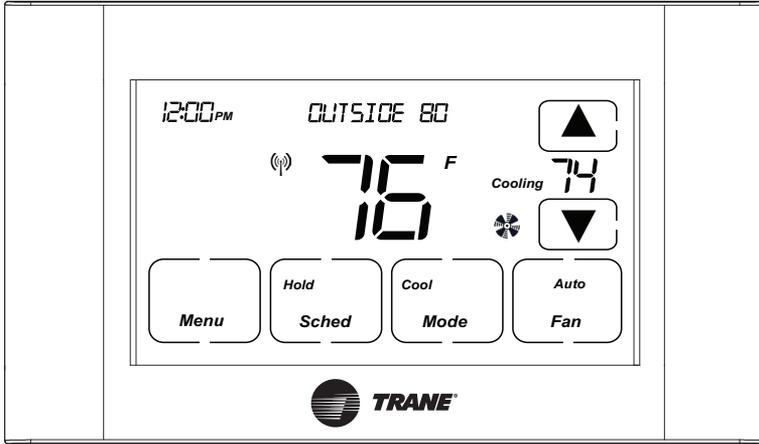
- WiFi comfort control
- Remote access via smartphone, tablet, or P.C. (requires a Nexia™ Smart Home Comfort System account)
- Interactive 4.3" black & white touchscreen
- 7 Day programmable, 4 schedules/day
- Built in humidity sensor with RH display
- Filter, maintenance, humidifier service reminders
- Remote temperature sensing option (1 indoor/1 outdoor)
- Auxiliary & compressor heat lockouts
- Dehumidification (over cooling)
- Enhanced dehumidification (cooling)
- Adjustable variable speed fan settings (pwm)
- Energy Savings Mode (ESM)
- Screen lock
- Upgradable firmware (requires a Nexia™ Smart Home Comfort System account)
- Service test modes
- Humidifier control

XR724 Product Specifications

| Specification | Description |
|-----------------------------|--|
| Product Model: | TCONT724AS42DAA |
| Product: | XR724 HVAC System comfort control. WiFi communications enabled. |
| Size: | 5.75" wide x 3.5" height x 1" depth |
| Display: | Fixed Segment LCD, 4" x 2.25", with 17 character alpha numeric display |
| Touchscreen: | Yes |
| Backlight: | Yes, White, Controllable, on, off, timeout |
| Power: | 24VAC from HVAC System |
| HVAC System Type: | Standard (gas/electric), Heat Pump, or Dual Fuel |
| Heat/Cool Stages: | Up to four stages of heat/two stages cool |
| PWM Output (BK) | Variable speed motor control |
| Heat Pump Switchover valve: | Selectable change over with cool or with heat |
| Auxiliary Contact | Humidifier, Ventilation or Dehumidifier control |
| Communications: | WiFi |
| Memory: | Non-volatile |
| Date/Time: | 12 hour super capacitor backup Time is automatically updated if the control is connected to Nexia Smart Home Comfort System |

Operation

The XR724 Comfort Control provides typical operation of a forced air heating and cooling HVAC system. It also features WiFi capability for remote control and Nexia Smart Home Comfort System connectivity.



Normally, the Comfort Control displays the Home Screen as shown above.

| Item | Description | Notes |
|---|---|---|
| Clock Display | The current time is displayed in the upper left corner of the main screen. The time will blink when the clock has not been set. | See TIME/DATE for more information. If the control is connected to Nexia Smart Home Comfort System the clock will be updated by the Nexia portal. |
| Dynamic Labels and Function Control Buttons | The buttons are defined by the dynamic labels in each button. As you navigate through menus, the labels for the buttons will change. | |
| Setpoint Display and Setpoint Up/Down Buttons | The current heat or cool setpoint is displayed. These setpoints may be set using Nexia Smart Home Comfort System, the Control's internal schedule, or by pressing the Setpoint Up/Down buttons. Pressing the setpoint button changes the setpoint screen. The current mode is displayed at the top of the screen. Adjust the setpoint by pressing the up or down arrows. To change setpoint mode press the MODE button. | The setpoints will push each other if they are adjusted to within the minimum heat/cool separation setting. This is normally 3 degrees. |
| Temperature Display | The Comfort Control displays the current temperature as sensed by the internal temperature sensor. | The internal temperature sensor can be adjusted as necessary. |
| Menu Button | Button used to access other Comfort Control menus | |
| System Mode Button | Button used to change the system mode. | Off: System off Heating: Heating only Cooling: Cooling only Auto: Heating/Cooling as necessary EM Heat: Heat Pump Emergency Heat, Compressor Disabled, Indoor Heat only. |
| Fan Mode Button | Button used to change the fan mode | Auto: Fan on when cooling/heating is necessary On: Fan constantly on Circ: Fan on for a user-selected number of minutes per hour |
| Schedule Mode Button | Button used to change the schedule mode The default mode is HOLD which disables scheduling. | Hold: System maintains the current temperature setpoints. Schedules are disregarded. Run: Run the system schedule Energy Saving Mode (ESM): Run schedule using the ESM Setpoints. Manual setpoint changes while in Run Schedule mode will only last until the next schedule period. |

MENU OPTIONS

The following is a guide of the menu options available by pressing the *Menu* button. Certain menu selections, which are marked by an asterisk (*), may or may not be present depending on other menu settings.

HUMIDITY *

* Only appears as a menu item if Dehumidify is set to Yes, Aux Relay is set to Dehumidifier, or Aux Relay is set to Humidity.

| HUMIDITY | | |
|--|------------------|--|
| Setting | Range | Description |
| Cooling RH Target* | 30% to 60% [50%] | Select the desired indoor relative humidity during cooling mode. Dehumidification must be enabled in the Installer Settings for this option to be available. |
| Heating RH Target* | 10% to 45% [40%] | Select the desired indoor relative humidity during heating mode. Humidification must be enabled in the Installer Settings for this option to be available. |
| <i>Once all selections have been made, press the Done button to exit and return to menu. Press Next to navigate to the next setting.</i> | | |

USER SETTINGS

User Settings allow the user to customize various settings on the XR724 control. To access User Settings simply press the *Menu* button once and "User Settings" will be displayed. To enter the User Settings menu, press the *Select* button, then use the *Next* button to navigate through the options below. The default setting will be shown in brackets. After each selection press the *Done* button to save changes. Certain menu selections, which are marked by an asterisk (*), may or may not be present depending on other menu settings.

| THERMOSTAT | | |
|--|-----------------------|---|
| Setting | Range / Sub Setting | Description / Range of Sub Settings |
| Temperature Scale | [Fahrenheit], Celsius | Select the temperature display scale |
| Max Heat Setpoint | 55 - [90] Degrees | Select the highest heating setpoint allowed |
| Min Cooling Setpoint | [60] - 99 Degrees | Select the lowest cooling setpoint allowed |
| Time/Date* | Set Hour | 1 - 12 AM, 1 - 12 PM [12PM] |
| If connected with Nexia, then time and date are provided by the network | Set Minutes | 0 - 59 [0] |
| | Day of Week | [Sun], Mon, Tue, Wed, Thr, Fri, Sat |
| | Year | [2013] - 2113 |
| | Month | [Jan], Feb, Mar, Apr, May, Jun, Jul, Aug, Sep, Oct, Nov, Dec |
| | Date | [1] - 31 |
| | DST Enable | [Yes], No |
| Continuous Fan Airflow* | 35% - 100% [50%] | Select the desired fan speed when the Fan Mode selected is Continuous (variable speed blower required). Only available if ID Fan Type = Variable. |
| Fan Circulate On Time | [10] - 55 minutes | Select the desired amount of time the fan will cycle per hour when the Fan Mode selected is Circ |
| <i>Once all selections have been made, press the Done button to exit and return to menu. Press Next to navigate to the next setting.</i> | | |

USER SETTINGS continued

The following is a guide of the menu options available by pressing the *Menu* button. Certain menu selections, which are marked by an asterisk (*), may or may not be present depending on other menu settings.

| SCHEDULES | | |
|---|---|---|
| Setting | Range / Sub Settings | Description / Range of Sub Settings |
| ESM Heat Setpoint* | 55 - 90 degrees [62] | Select the desired Heating Setpoint when ESM (Energy Savings Mode) is selected |
| ESM Cooling Setpoint* | 60 - 99 degrees [85] | Select the desired Cooling Setpoint when ESM is selected |
| Edit Schedule* | Select Day (use Back/Next) Wake Period | This section is done for each day Set Time [6:00 am] Heat Setpoint 60° - 90° [70] Cool Setpoint 60° - 90° [78] |
| | Day Period | Set Time [8:00 am] Heat Setpoint 60° - 90° [62] Cool Setpoint 60° - 90° [85] |
| | Eve Period | Set Time [6:00 pm] Heat Setpoint 60° - 90° [70] Cool Setpoint 60° - 90° [78] |
| | Night Period | Set Time [10:00 pm] Heat Setpoint 60° - 90° [62] Cool Setpoint 60° - 90° [78] |
| Copy Schedule* | Copy from (use Back/Next) Select day to copy Copy (day selected) To | Copy selected day to current schedule period. |
| Smart Recovery* | Yes, [No] | |
| Once all selections have been made, press the Done button to exit and return to menu. Press Next to navigate to the next setting. | | |
| DISPLAY | | |
| Setting | Range | Description |
| Backlight On | 0 - [100] percent | Select the screen brightness level when the backlight is lit |
| Backlight Off | [0] - 100 percent | Select the screen brightness level when the backlight timeout expires |
| Display Lock | [Unlocked], Display lock | Select security level • Unlocked - Enables selection of all menus and settings • Display Lock - Disables selection of all menus and settings <i>Note: When Display Lock is selected a lock icon will appear next to the up arrow.</i> <i>Note: To disable Display Lock, press and hold the Menu button 5 seconds until the lock icon disappears.</i> |
| Once all selections have been made, press the Done button to exit and return to menu. Press Next to navigate to the next setting. | | |
| CALIBRATE SENSORS | | |
| Setting | Range | Description |
| Sensor Cal | +/- 7 degrees (F or C) [0 deg] | Calibrate the internal temperature sensor (1° in F = 2° in C) |
| Remote Sensor Cal* | +/- 7 degrees (F or C) [0 deg] | Calibrate an attached remote sensor |
| ODT Sensor Cal* | +/- 7 degrees (F or C) [0 deg] | Calibrate an attached outdoor sensor |
| RH Cal | +/- 7 % [0 %] | Calibrate the internal humidity sensor |
| Once all selections have been made, press the Done button to exit and return to menu. Press Next to navigate to the next setting. | | |

XR724 USER GUIDE

WIFI

Even though open networks (no password) and WEP WiFi encryption are supported, it is recommended to use a more secure network encryption such as WPA2 or later.

| WIFI | | |
|-------------------|--|--|
| Setting | Range | Description |
| Network | Join a Network OR leave network | Network connection action required: Yes, No |
| Status | WiFi not configured OR Nexia enrolled | Status of Network connection |
| Connection Result | WiFi not configured OR Success | Status of WiFi connection |
| Info | SPWF FW | Firmware version displayed |
| | SSID | Not Available OR Network Name displayed |
| | IP | Not Available OR IP Address displayed |
| | Mask | Not Available OR Mask displayed |
| | GW | Not Available OR Gateway IP address displayed |
| | DNS | Not Available OR DNS IP address displayed |
| | MAC | Not Available OR MAC address displayed |
| Retries | Retries (X) | Number of connection retries |
| Connection Time | Disconnected OR X hours | Connection hours |
| RSSI | RSSI – xx DBM | Connection signal strength |

*Once all selections have been made, press the **Done** button to exit and return to menu. Press **Next** to navigate to the next setting.*

NEXIA

| NEXIA | | |
|--------------------|--|----------------------------------|
| Setting | Range | Description |
| Status | WiFi Not Configured Enrolled | WiFi connection status |
| Info | URL (XXXX) Port (XXXXX) Nexia Pin (XXXX) | Nexia connection info |
| Enroll OR Unenroll | Enroll, Unenroll | Join OR leave a Nexia connection |

*Once all selections have been made, press the **Done** button to exit and return to menu. Press **Next** to navigate to the next setting.*

XR724 USER GUIDE

The following is a guide of the menu options available on screen accessed by pressing the *Menu* button. Certain menu selections, which are marked by an asterisk (*), may or may not be present depending on other menu settings.

SERVICE

Press and hold *Service* button for 5 seconds until service menu is displayed

| INSTALLER SETTINGS | | |
|---|---|---|
| Setting | Sub Settings | Range |
| Equipment Type | ODU Type (Outdoor Unit) | None, [AC], HP |
| | ODU Stages | [1 Stage], 2 Stages |
| | Compressor Type* | [1 Comp - 2 Stage], 2 Comp - 2 Stage |
| | IDU Type | [Gas / Oil], Electric, Hydronic |
| | Hydronic Type* | [Hydro Air], Wet Heat |
| | ID Heat Stages | [1 Stage], 2 Stages |
| | ID Fan Type | [Non-Variable], Variable |
| Sensor Settings | SOV Operation* | [with Cool], With Heat |
| | Remote Sensor | [None], Replace Indoor, Average |
| | ODT Sensor | [None], Outdoor |
| Accessories | Aux Relay | [None], Humidity, Ventilation, Dehumidifier |
| | Control Option* | [With Active Heat], Without Active Heat |
| | Vent Run Time* | [Off], 5 - 60 min in 5 min increments |
| Comfort Settings | Control Response | [Normal], Less Aggressive, More Aggressive (see page 9 for definitions) |
| | Dehumidify* | [Yes], No |
| | Overcooling Limit* | [Off], 1 deg, 2 deg, 3 deg |
| | Smart Cont Fan* | [No], Yes |
| Airflow Settings | One of the following groups will be displayed | |
| Fan type = Non Variable | On Delay Cooling | [0], 5-90 Sec in 5 sec increments |
| | Off Delay Cooling | [0], 5-90 Sec in 5 sec increments |
| | On Delay Heating* | [0], 5-90 Sec in 5 sec increments |
| | Off Delay Heating* | [0], 5-90 Sec in 5 sec increments |
| Fan type = Variable | On Delay Cooling | Disabled, [Enhanced Mode], 30 sec delay |
| | Off Delay Cooling | Disabled, [1.5 Min at 100%], 45 sec delay |
| | On Delay Heating* | Disabled, [Enhanced Mode], 30 sec delay |
| | Off Delay Heating* | Disabled, [1.5 Min at 100%], 45 sec delay |
| Hydronic Type = Hydro Air | On Delay Heat | [0], 5-90 Sec in 5 sec increments |
| | Off Delay Heat | [0], 5-90 Sec in 5 Sec increments |
| Lockouts* | Aux Heat | [No], Yes |
| | Aux Lockout ODT* | 30 - 70 Deg [50 Deg] |
| | Comp Heat | [No], Yes |
| | Comp Lockout ODT* | 5 - 70 Deg, [40 Deg] |
| Once all selections have been made, press the <i>Done</i> button to exit and return to menu. Press <i>Next</i> to navigate to the next setting. | | |

SERVICE continued

The following is a guide of the menu options available on screen accessed by pressing the *Menu* button. Certain menu selections, which are marked by an asterisk (*), may or may not be present depending on other menu settings.

| TEST MODE (stays on for 30 minutes) | | |
|-------------------------------------|------------------------------------|--|
| Test Mode | Settings | Description |
| Blower (Non-VS) | Blower On | Energize "G" circuit |
| Blower (VS) | 50%, 100% | Energize "G" and "BK" circuit |
| Cooling | Single Stage, 1st Stage, 2nd Stage | Energize selected "Y1" or "Y2", "O" and "G" circuit (BK also for VS indoor unit) |
| Comp Heating* | Single Stage, 1st Stage, 2nd Stage | Energize selected "Y1" or "Y2" and "G" circuit ("BK" also for VS indoor unit) |
| Indoor Heating | Single Stage, 1st Stage, 2nd Stage | Energize selected "W1" or "W2" ("G" circuit also for electric heat) |
| Aux Relay | Relay On | Close normally open dry contacts |

Once testing is complete, press the **Done** button to exit and return to menu.

| REMINDERS | | |
|---------------------|--|-------------------------------|
| Setting | Range | Description |
| Filtration Enable | [No], Yes | Filter change reminder |
| Filter Period* | [Monthly], Quarterly, Bi-Annually, Annually | Filter change reminder period |
| Start Month* | [Jan], Feb, Mar, Apr, May, Jun, Jul, Aug, Sep, Oct, Nov, Dec | Period start month |
| System Maint Enable | [No], Yes | System Maintenance reminder |
| Maint Period* | [Bi-Annually], Annually | Maintenance reminder period |
| First Maint Month* | Jan, Feb, [Mar], Apr, May, Jun, Jul, Aug, Sep, Oct, Nov, Dec | Period start month |
| Second Maint Month* | Jan, Feb, Mar, Apr, May, Jun, Jul, Aug, [Sep], Oct, Nov, Dec | 2nd period start month |
| Humidifier Enable | [Yes], No | |
| Start Month | [Jan], Feb, Mar, Apr, May, Jun, Jul, Aug, Sep, Oct, Nov, Dec | |

Once all selections have been made, press the **Done** button to exit and return to menu. Press **Next** to navigate to the next setting.

| RESTORE DEFAULTS | | |
|--------------------------|-----------------------------|--|
| Setting | Action | Description |
| Restore HVAC Defaults | Yes, No | Resets all HVAC settings to Default Settings |
| Restore Factory Defaults | Press and Hold "Yes" | Press and hold "Yes" button until "Factory" is displayed Resets HVAC and WiFi defaults |

ABOUT

| Setting | Range | Description |
|-----------------|-----------------------------|---|
| Version | XXXXXX | Firmware version number |
| Device ID (SIN) | XXXXXX | Unit serial number |
| ODU Type | None, AC, HP | Outdoor unit type setting |
| IDU Type | Electric, Gas/Oil, Hydronic | Indoor unit type setting |
| SOV | W/Cool, W/Heat | Switchover value type setting (HP only) |

Once all selections have been made, press the **Done** button to exit and return to menu. Press **Next** to navigate to the next setting.

XR724 USER GUIDE

CLEAN SCREEN

| Setting | Range | Description |
|--------------|---------|------------------|
| Clean Screen | Yes, No | 30 sec countdown |

Once all selections have been made, press the **Done** button to exit and return to menu. Press **Next** to navigate to the next setting.

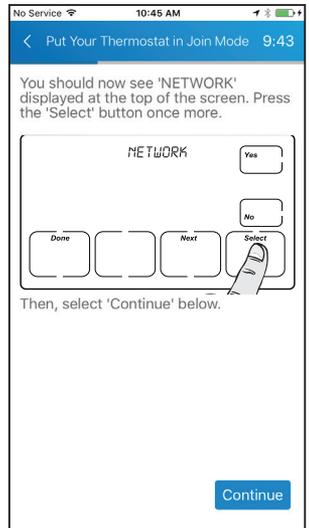
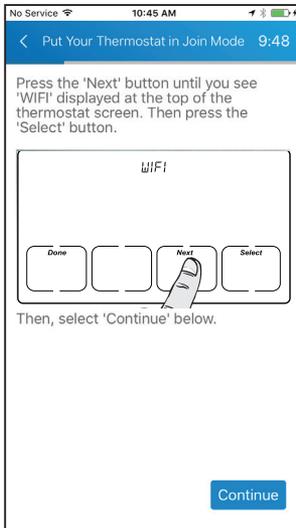
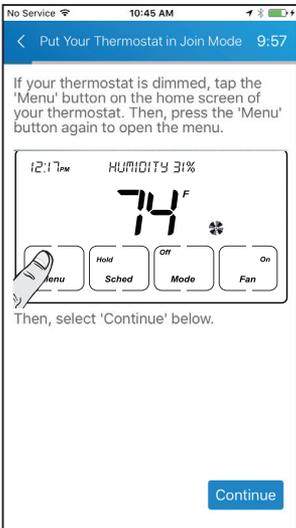
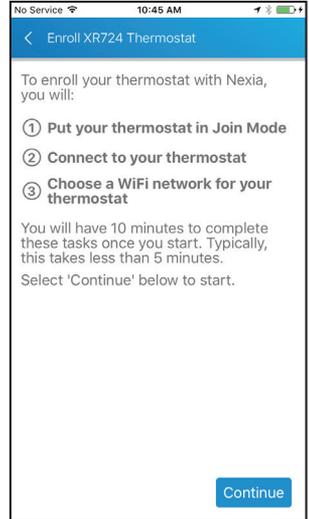
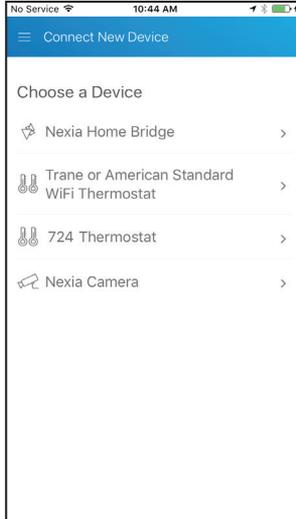
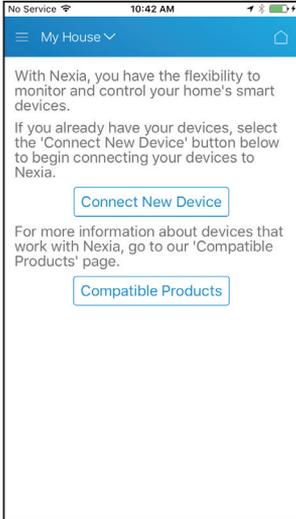
XR724 Control Response Profiles

From Installer Settings / Comfort Settings (numbers are in degrees, F or C)

| Cooling | Normal | Less Aggressive | More Aggressive |
|-------------------------------|--------|-----------------|-----------------|
| Cooling Delta Stage 1 ON | 0.5 | 1 | 0.5 |
| Cooling Delta Stage 2 ON | 1.5 | 2 | 1 |
| Cooling Delta Stage 1 OFF | -0.5 | 0 | -1.0 |
| Cooling Delta Stage 2 OFF | -0.5 | 0 | -1.0 |
| | | | |
| Heating - HP | Normal | Less Aggressive | More Aggressive |
| Comp Heat Delta Stage 1 ON | 0.5 | 1 | 0.5 |
| Comp Heat Delta Stage 2 ON | 1.5 | 2 | 1.0 |
| Indoor Heat Delta Stage 1 ON | 2.5 | 3 | 1.5 |
| Indoor Heat Delta Stage 2 ON | 3.5 | 4 | 2.0 |
| Comp Heat Delta Stage 1 OFF | 0 | 0 | 0 |
| Comp Heat Delta Stage 2 OFF | 0 | 0 | 0 |
| Indoor Heat Delta Stage 1 OFF | 0 | 0 | 0 |
| Indoor Heat Delta Stage 2 OFF | 0 | 0 | 0 |
| | | | |
| Heating - Gas | Normal | Less Aggressive | More Aggressive |
| Indoor Heat Delta Stage 1 ON | 0.5 | 1 | 0.5 |
| Indoor Heat Delta Stage 2 ON | 1.5 | 2 | 1.0 |
| Indoor Heat Delta Stage 1 OFF | 0 | 0 | 0 |
| Indoor Heat Delta Stage 2 OFF | 0 | 0 | 0 |
| | | | |
| Timers | Normal | Less Aggressive | More Aggressive |
| Heat Stage UP Timer | 15 min | 20 min | 10 min |
| Cool Stage UP Timer | 15 min | 20 min | 10 min |

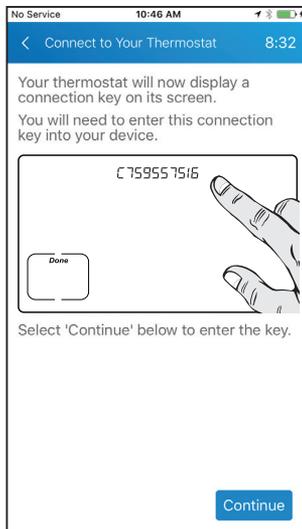
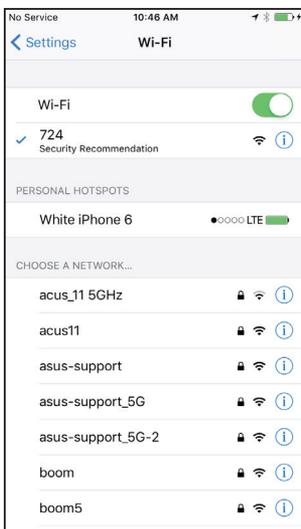
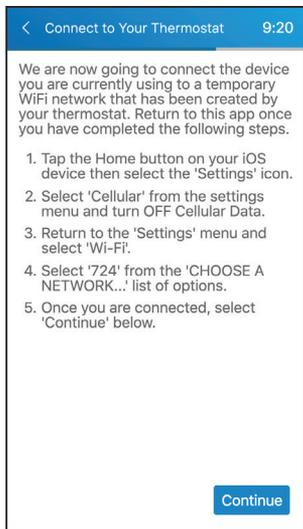
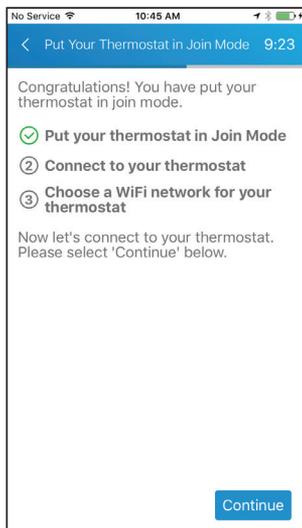
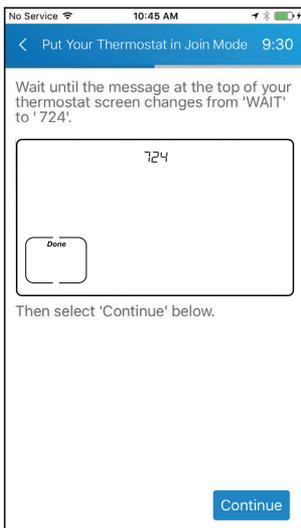
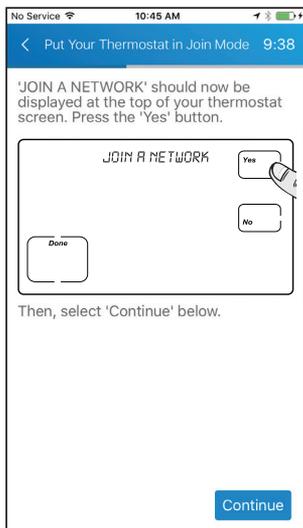
XR724 NEXIA Enrollment

The XR724 uses the Nexia mobile app to enroll into Nexia. To enroll download the Nexia app from the Google Play™ Store or App Store®, then launch the app. Once in the app, click **Connect New Device**, select **724 thermostat** then follow installation wizard prompts.

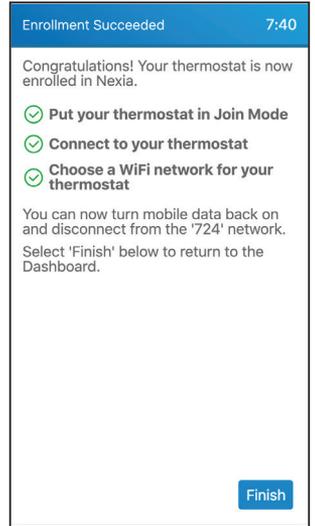
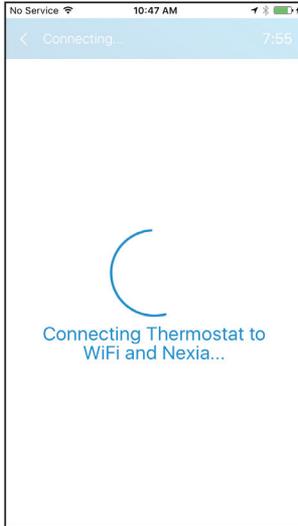
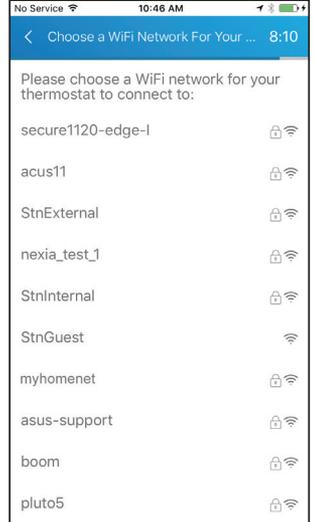
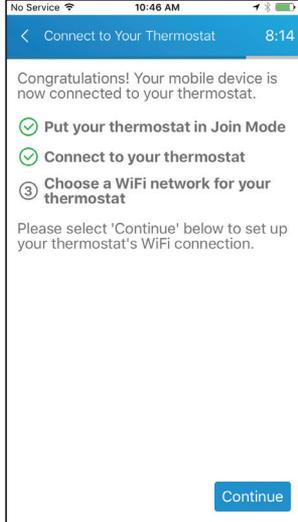


XR724 NEXIA Enrollment continued

Even though open networks (no password) and WEP WiFi encryption are supported, it is recommended to use a more secure network encryption such as WPA2 or later.

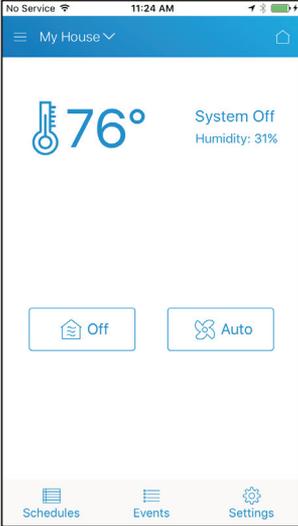


XR724 NEXIA Enrollment continued

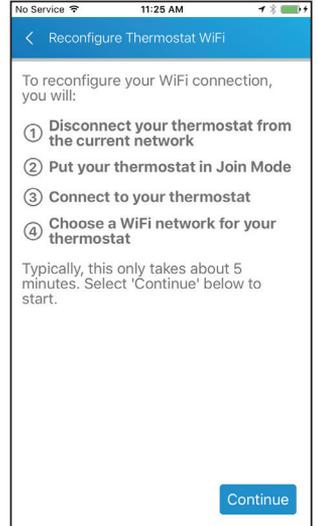
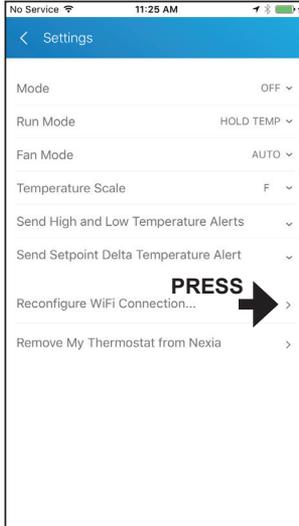
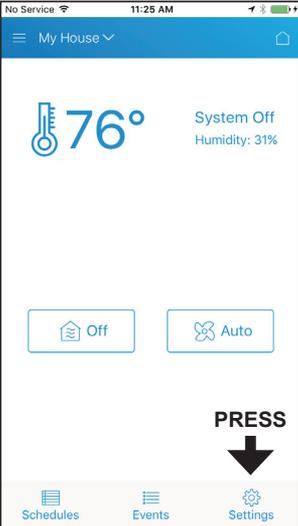


XR724 USER GUIDE

XR724 NEXIA Enrollment continued



XR724 Nexia WiFi Reconfiguration

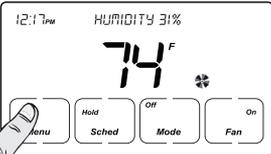


XR724 Nexia WiFi Reconfiguration continued

11:25 AM

Disconnect Thermostat from Network

If your thermostat is dimmed, tap the 'Menu' button on the home screen of your thermostat. Then, press the 'Menu' button again to open the menu.



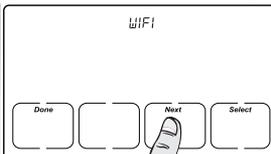
Then, select 'Continue' below.

Continue

11:25 AM

Disconnect Thermostat from Network

Press the 'Next' button until you see 'WiFi' displayed at the top of the thermostat screen. Then press the 'Select' button.



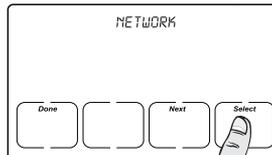
Then, select 'Continue' below.

Continue

11:25 AM

Disconnect Thermostat from Network

You should now see 'NETWORK' displayed at the top of the screen. Press the 'Select' button once more.



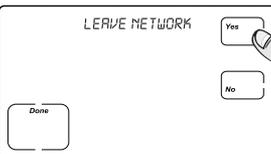
Then, select 'Continue' below.

Continue

11:25 AM

Disconnect Thermostat from Network

'Leave Network' should now be displayed along the top of your thermostat screen. Press the 'Yes' button.



Then, select 'Continue' below.

If 'Leave Network' is not displayed, skip this step.

Continue

11:25 AM

Disconnect Thermostat from Network

Congratulations! You have disconnected your thermostat from the network.

- 1 Disconnect your thermostat from the current network
- 2 Put your thermostat in Join Mode
- 3 Connect to your thermostat
- 4 Choose a WiFi network for your thermostat

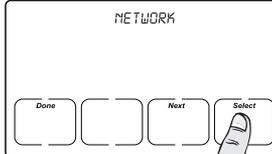
Please select 'Continue' below to put your thermostat into Join Mode.

Continue

11:25 AM

Put Your Thermostat in Join Mode

You should now see 'NETWORK' displayed at the top of the screen. Press the 'Select' button once more.

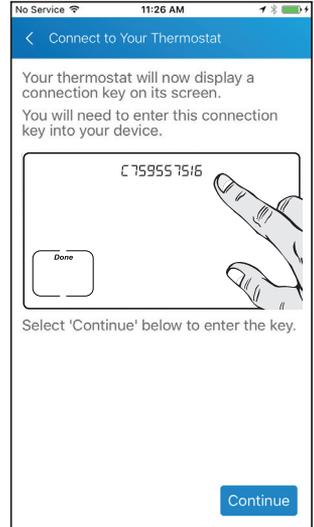
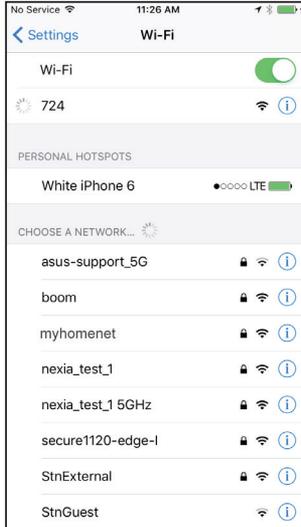
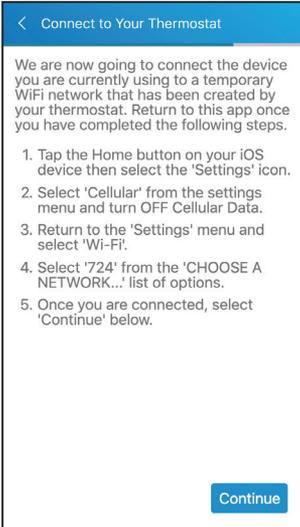
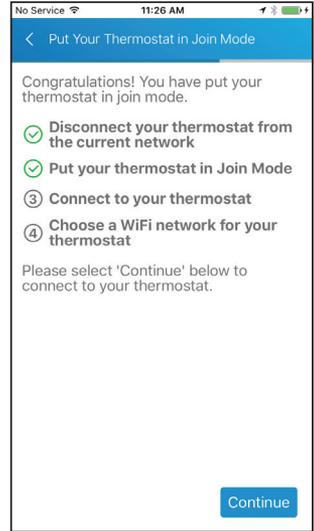
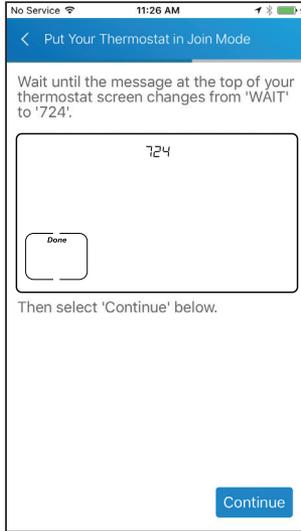
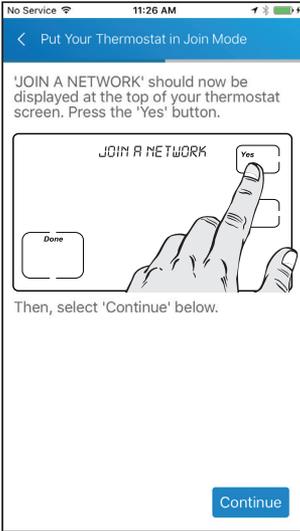


Then, select 'Continue' below.

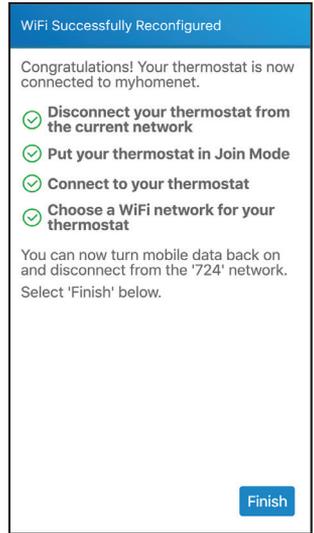
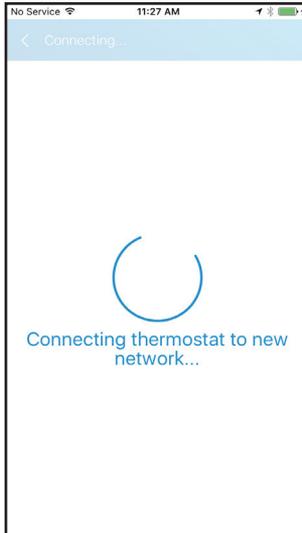
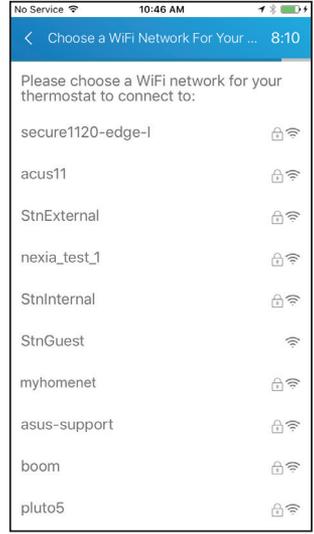
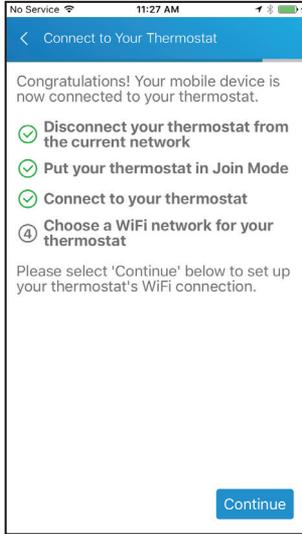
If 'Leave Network' was not displayed in a previous step, skip this step.

Continue

XR724 Nexia WiFi Reconfiguration continued



XR724 Nexia WiFi Reconfiguration continued



XR724 Nexia WiFi Reconfiguration continued

