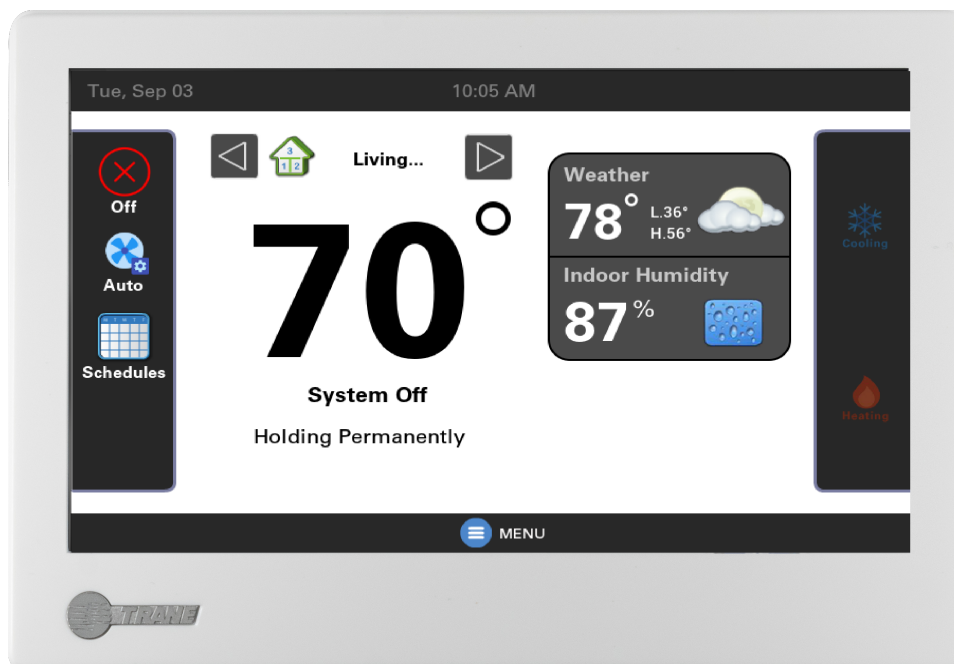




Installation, Operation, and Maintenance

Link Zone Thermostat



Model:
TZON2HUIA252Z*

⚠ SAFETY WARNING

Only qualified personnel should install and service the equipment. The installation, starting up, and servicing of heating, ventilating, and air-conditioning equipment can be hazardous and requires specific knowledge and training. Improperly installed, adjusted or altered equipment by an unqualified person could result in death or serious injury. When working on the equipment, observe all precautions in the literature and on the tags, stickers, and labels that are attached to the equipment.



Introduction

The Trane Link Zone Thermostat is an easy-to-use communicating zone sensor with a color touch screen for use with a Trane Link Zone system.

This guide provides an introduction to the Trane Link Zone Thermostat's features and helps users get started with the Zone Sensor.

The intuitive interface and powerful features of the color touch screen zone sensor are incorporated into a compact design, representing the ultimate in climate control and comfort technology from the industry's leader in residential HVAC systems.

Note: *Trane Link360 software version 9.3 or later is required.*

Warnings, Cautions, and Notices

Safety advisories appear throughout this manual as required. Your personal safety and the proper operation of this machine depend upon the strict observance of these precautions.

The three types of advisories are defined as follows:



Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



Indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury. It could also be used to alert against unsafe practices.



Indicates a situation that could result in equipment or property-damage only accidents.

Important Environmental Concerns

Scientific research has shown that certain man-made chemicals can affect the earth's naturally occurring stratospheric ozone layer when released to the atmosphere. In particular, several of the identified chemicals that may affect the ozone layer are refrigerants that contain Chlorine, Fluorine and Carbon (CFCs) and those containing Hydrogen, Chlorine, Fluorine and Carbon (HCFCs). Not all refrigerants containing these compounds have the same potential impact to the environment. Trane advocates the responsible handling of all refrigerants.

Important Responsible Refrigerant Practices

Trane believes that responsible refrigerant practices are important to the environment, our customers, and the air conditioning industry. All technicians who handle refrigerants must be certified according to local rules. For the USA, the Federal Clean Air Act (Section 608) sets forth the requirements for handling, reclaiming, recovering and recycling of certain refrigerants and the equipment that is used in these service procedures. In addition, some states or municipalities may have additional requirements that must also be adhered to for responsible management of refrigerants. Know the applicable laws and follow them.

⚠ WARNING

Proper Field Wiring and Grounding Required!

Failure to follow code could result in death or serious injury.

All field wiring MUST be performed by qualified personnel. Improperly installed and grounded field wiring poses FIRE and ELECTROCUTION hazards. To avoid these hazards, you MUST follow requirements for field wiring installation and grounding as described in NEC and your local/state/national electrical codes.

⚠ WARNING

Personal Protective Equipment (PPE) Required!

Failure to wear proper PPE for the job being undertaken could result in death or serious injury.

Technicians, in order to protect themselves from potential electrical, mechanical, and chemical hazards, **MUST** follow precautions in this manual and on the tags, stickers, and labels, as well as the instructions below:

- Before installing/servicing this unit, technicians **MUST** put on all PPE required for the work being undertaken (Examples; cut resistant gloves/sleeves, butyl gloves, safety glasses, hard hat/bump cap, fall protection, electrical PPE and arc flash clothing). **ALWAYS** refer to appropriate Safety Data Sheets (SDS) and OSHA guidelines for proper PPE.
- When working with or around hazardous chemicals, **ALWAYS** refer to the appropriate SDS and OSHA/GHS (Global Harmonized System of Classification and Labelling of Chemicals) guidelines for information on allowable personal exposure levels, proper respiratory protection and handling instructions.
- If there is a risk of energized electrical contact, arc, or flash, technicians **MUST** put on all PPE in accordance with OSHA, NFPA 70E, or other country-specific requirements for arc flash protection, **PRIOR** to servicing the unit. **NEVER PERFORM ANY SWITCHING, DISCONNECTING, OR VOLTAGE TESTING WITHOUT PROPER ELECTRICAL PPE AND ARC FLASH CLOTHING. ENSURE ELECTRICAL METERS AND EQUIPMENT ARE PROPERLY RATED FOR INTENDED VOLTAGE.**

⚠ WARNING

Follow EHS Policies!

Failure to follow instructions below could result in death or serious injury.

- All Trane personnel must follow the company's Environmental, Health and Safety (EHS) policies when performing work such as hot work, electrical, fall protection, lockout/tagout, refrigerant handling, etc. Where local regulations are more stringent than these policies, those regulations supersede these policies.
- Non-Trane personnel should always follow local regulations.

⚠ WARNING

Cancer and Reproductive Harm!

This product can expose you to chemicals including lead and bisphenol A (BPA), which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

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Installation

Safety

⚠ WARNING

Safety and Electrical Hazard!

Failure to follow instructions below could result in death or serious injury or property damage.
All servicing **MUST** be performed by qualified personnel only based on the operating instructions provided.

⚠ WARNING

Live Electrical Components!

Failure to follow all electrical safety precautions when exposed to live electrical components could result in death or serious injury.

When it is necessary to work with live electrical components, have a qualified licensed electrician or other individual who has been properly trained in handling live electrical components perform these tasks.

Note: Use 18-gauge color-coded thermostat cable for proper wiring. Shielded cable is not typically required. Keep this wiring at least one foot away from large inductive loads such as electronic air cleaners, motors, line starters, lighting ballasts, and large distribution panels.

- Failure to follow these wiring practices may introduce electrical interference (noise) which can cause erratic system operation.
- All unused thermostat wire to be grounded at indoor unit chassis ground only.
- Shielded cable may be required if the above wiring guidelines cannot be met.
- Ground only one end of the shield to the system chassis.

General Information

The Link Zone Thermostat has a seven-inch color touch screen and offers a full-featured and easy-to-use interface.

Figure 1. Link Zone Thermostat touch screen



Box Contents

- Literature
 - Installation and Operation guide
 - Warranty card
- Link Zone Thermostat
- Wall plate
- Mounting hardware

Additional Equipment Required

- Link360 Controller Kit (TLINK360A2VVU*) with **Link software version 9.3 or later**
- Link Zone Kit (ZZON2KITA200Z*)

Location

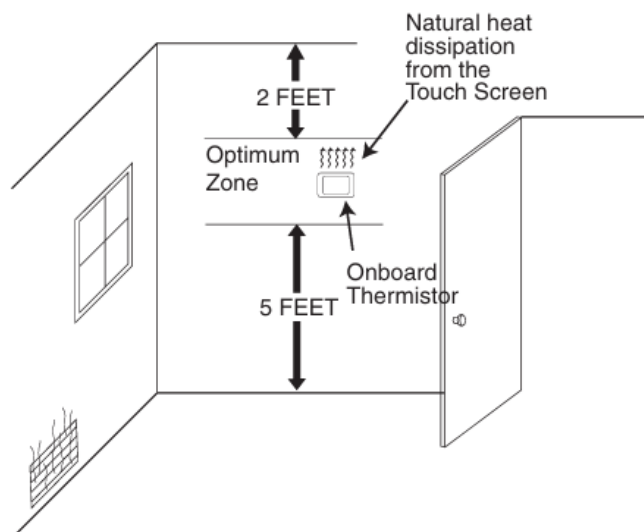
The Link Zone Thermostat is designed for installation in climate controlled living spaces when applied with Trane's Link zone control system.

Location considerations:

- Place the zone thermostat in a central location with good circulation.
- For proper temperature sensing, avoid exposing the Link Zone Thermostat to heat radiated from lamps, sun light, fireplaces, or any other radiant heat source.
- Avoid locations close to windows, behind doors or alcoves with poor air circulation, adjoining outside walls, or doors that lead to the outside.
- Select a location that prevents the Link Zone Thermostat from direct exposure to air currents from supply registers or ceiling fans.
- Mount the zone sensor on a section of interior wall that does not contain hot or cold water pipes or duct work.

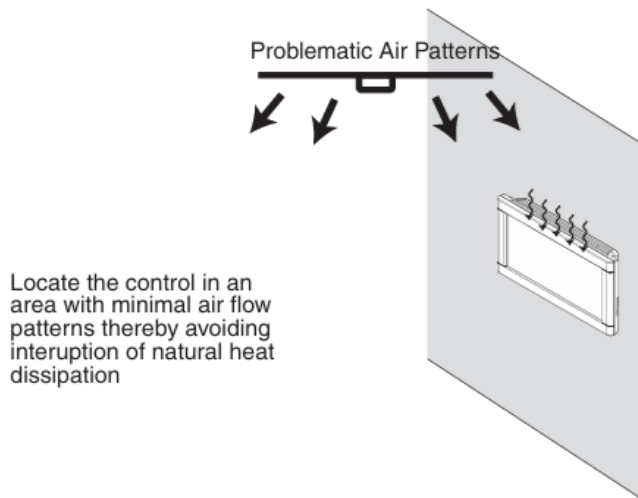
Important: The Link Zone Thermostat zone sensor uses a seven-inch color touch screen. This screen generates heat which is vented out the top of the zone sensor using natural convection. If an air source is directed at or from above, heat from the screen can be trapped within the zone sensor and may impact the indoor temperature sensor.

Figure 2. Correct placement



¹. If using an earlier version of the Link360 Controller Kit, a software update is required to Link software version 9.3 of later to work with the Link Zone Thermostat.

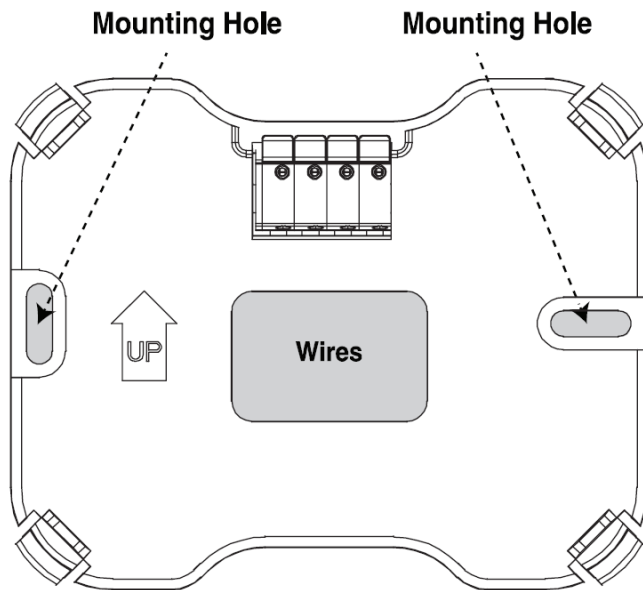
Figure 3. Incorrect placement



Mounting

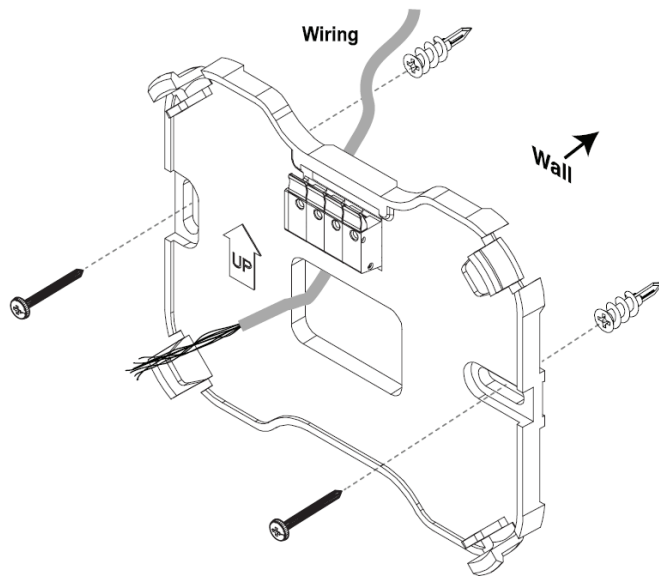
1. Turn OFF all power to heating and cooling equipment.
2. Route the wires through the opening on the subbase.
3. Place the subbase against the wall in the desired location and mark the wall through the center of each mounting hole.

Figure 4. Mark the mounting holes



4. Drill the holes in the wall where marked.
5. Mount the subbase to the wall using the included mounting screws and drywall anchors. Confirm all wires extend through the subbase.

Figure 5. Mount the subbase to the wall



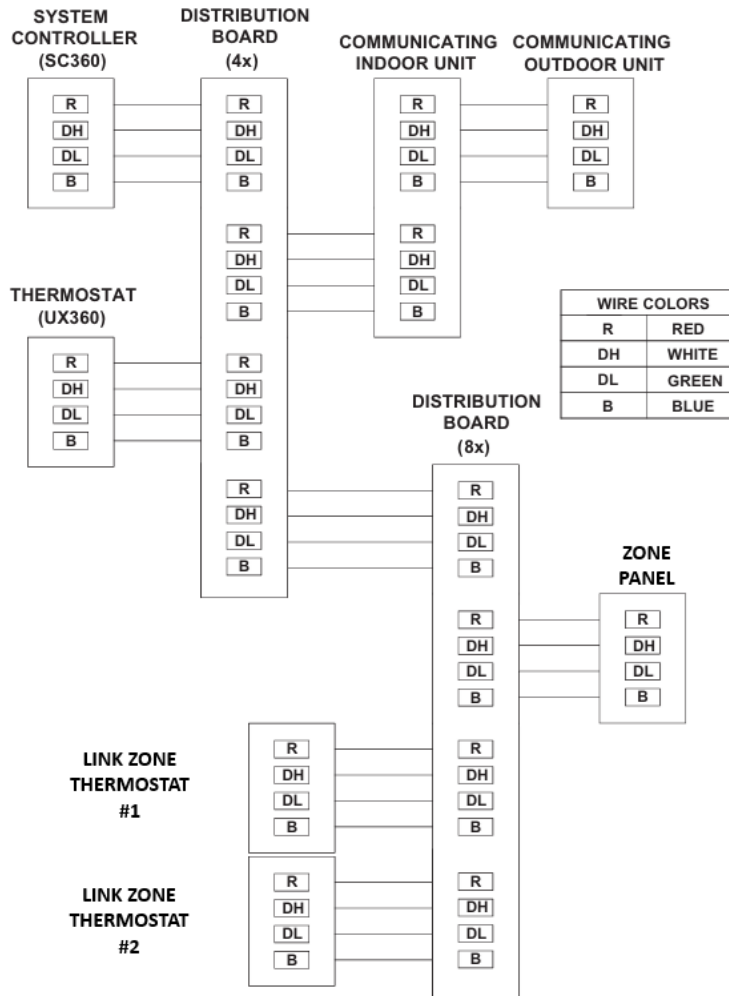
Wiring

1. Adjust the length and position of each wire to reach the proper terminal on the connector block of the subbase.
2. Strip 1/4-inch of insulation from each wire.
3. Do not allow adjacent wires to short together when connected.
4. If stranded thermostat cable is used, cut one or more strands to allow the cable to fit the connector. Use solid conductor 18 gauge thermostat wire.
5. Match and connect control wires to the proper terminals on the connector block.
6. Push excess wire back into the wall and seal the hole to prevent air leaks.

Note: Air leaks in the wall behind the Link Zone Thermostat can cause improper operation.

7. Attach the Link Zone Thermostat to the subbase.
8. Turn ON power to the heating and cooling equipment.

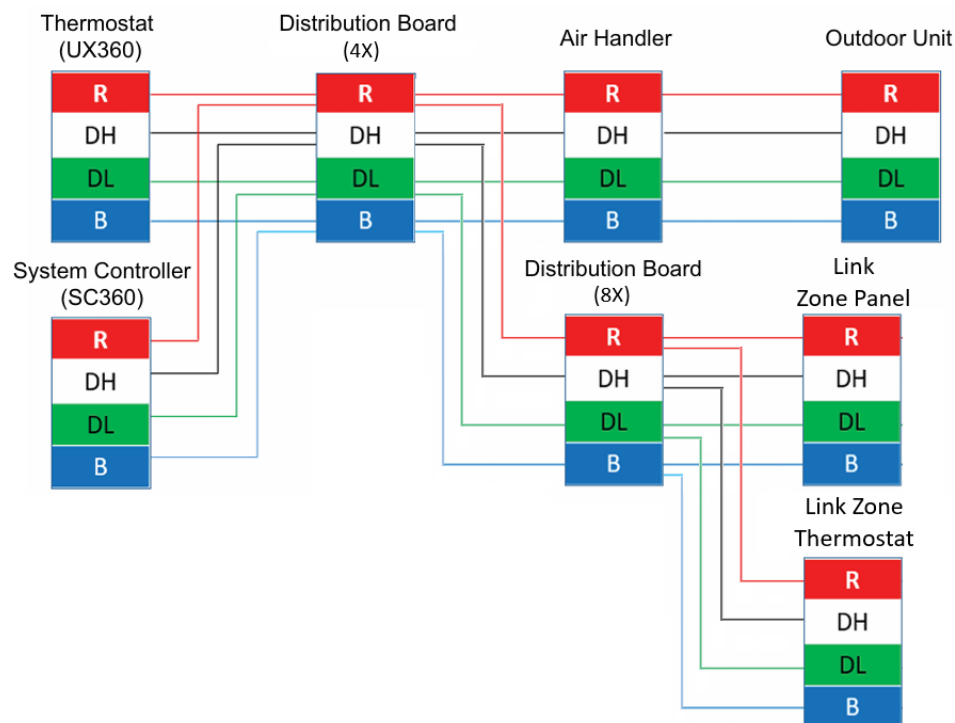
Figure 6. Link Zone Thermostat wiring diagram



Note: See Link Zoning and CANBUS 8PT Distribution Board installation instructions for additional information.

CAN Low Voltage Troubleshooting

Figure 7. CAN troubleshooting diagram



24 VAC is required to:

- Power up the SC360 and UX360
- Power up the Link Zone Thermostat and Link Zone Panel
- At the outdoor unit for Smart Charge automatic charging
- At the outdoor unit if Load Shed is desired

Table 1. Troubleshooting

Troubleshooting steps	Description
Bus Idle	
Expected Measurement	2 - 4 VDC between DH and GND 2 - 4 VDC between DL and GND
	Voltage measured from DH to DL will vary depending on bus traffic
Resistance Between DH and DL^(a)	
Appropriate range can vary depending on the communicating equipment installed on the system	
Expected Measurement	60 +/- 10 ohms can be expected when the SC360, communicating indoor unit and communicating variable speed outdoor unit are installed
	90 +/- 10 ohms can be expected with no communicating outdoor unit installed
Lower than appropriate range	Possible short on the bus between DH and DL
Higher than appropriate range	Possible open circuit on the bus
Resistance Between DH and GND^(b)	
Expected Measurement	1 Mohms or greater

^(a) All power to the system must be turned OFF.

^(b) Device must be powered OFF and disconnected from the CAN bus.




Power-up Sequence

When the Link Zone Thermostat is installed into the sub-base and the 24VAC power is available, the Link Zone Thermostat initiates an 80 to 120 second power-up sequence. During the power up sequence, the screen will remain dark for approximately 20 seconds and will then display 'Initializing...' above a progress bar for up to three minutes.

Zone Assignment

1. From the Link Systems main user interface (UX360), navigate to **Menu > Service > Enter Technician Access > Proceed > Indoor Sensor Setup**. The Indoor Sensor Setup screen displays all available sensors and Link Zone Thermostats.

Figure 8. Indoor sensor setup screen

Indoor Sensor Setup	
Available Sensors	
 Zone Thermostat 01	>
Add Wireless Sensor	
Zone 1 - Living Room	
 Wired Sensor 01	>
Zone 2 - Kitchen	
 Wired Sensor 02	>

2. Select the sensors or Link Zone Thermostats to be assigned.

Figure 9. Sensor details screen

Sensor Details	
Zone Thermostat 01	
Assigned Zone	Unassigned >
Use Temperature	<input checked="" type="checkbox"/>
Use Humidity	<input checked="" type="checkbox"/>
Status	Online
Serial Number	NOSERNUM_ZC_1
Model Number	NOMODELNUM_ZC_1

3. Select **Assigned Zone** and the Zone Selection screen will appear. Choose the appropriate zone for the sensor or Link Zone Thermostat. Select **Back** to return to the Sensor Details screen.

Figure 10. Zone selection screen

Zone Selection	
Available Zones	
Unassigned	
Zone 1 - Living Room	
Zone 2 - Kitchen	✓
Zone 3 - Downstairs	
Zone 4 - Bedroom	
Zone 5 - Master Bedroom	

- (If available,) confirm the **Temperature** and **Humidity** features are selected. Then select **Back** to return to the Indoor Sensor Setup screen.
- After the sensor or Link Zone Thermostat has been assigned to a zone, it will move from the **Available Sensors** list to the list for the Zone it is assigned to.
- Repeat this process for all available sensors and Link Zone Thermostats.

Zone assignment is also available in the Technician App. Please refer to the **Sensor Assignment** section of the Zoning Installation Guide 18-HD99D1-1*-EN for more information.

Operation

Touch Screen

The Trane Link Zone Thermostat features a capacitive touch screen, enabling interaction through light pressure applied with a finger or any non-sharp object.

Important: Do not use hard or sharp objects to touch the screen.

Home Screen

Figure 11. Home screen

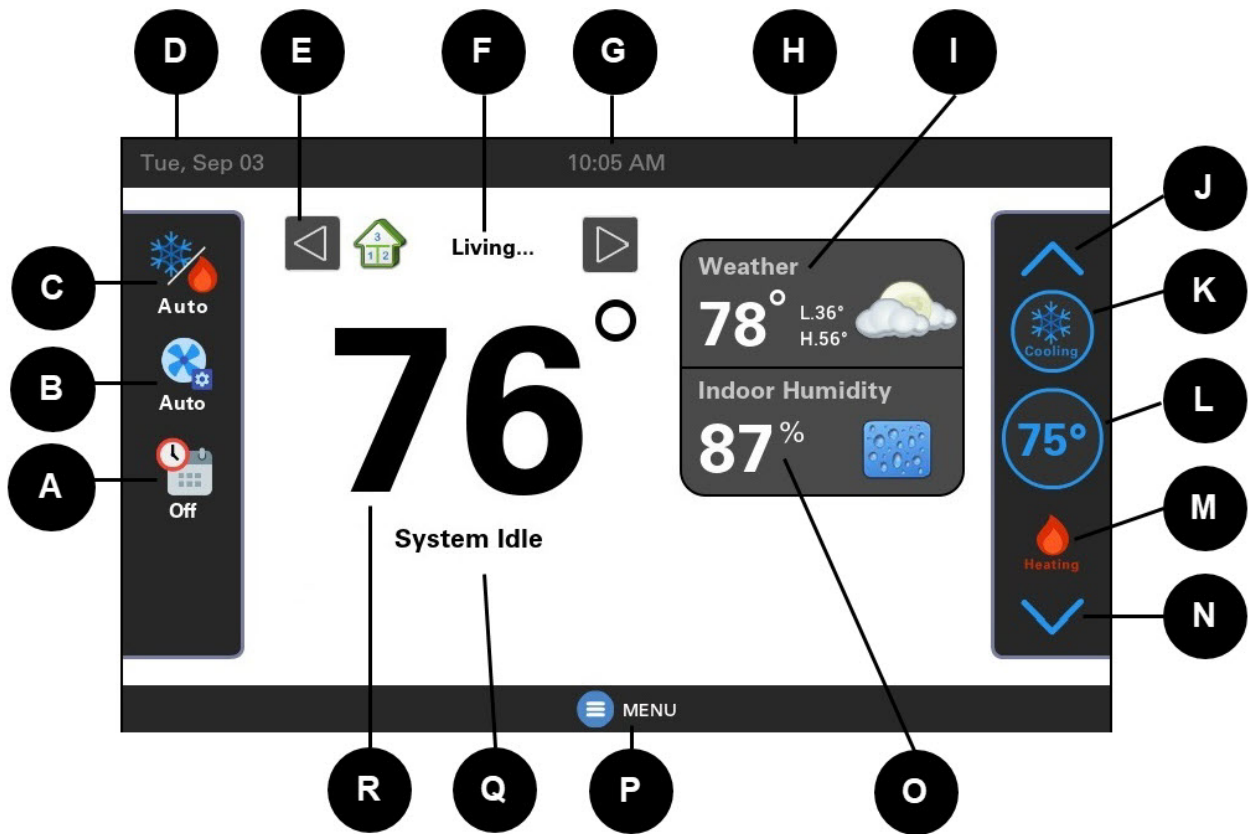


Table 2. Screen elements

Letter Callout	Description	Letter Callout	Description
A	Schedule on/off	J	Increase selected setpoint
B	Fan mode	K	View cooling setpoint
C	Zone mode	L	Current heating or cooling setpoint
D	Day/date	M	View heating setpoint
E	Use arrows to view other zones ^(a)	N	Decrease selected setpoint
F	Current zone displayed	O	Current indoor humidity
G	Time	P	Menu screen
H	Notifications and system alerts	Q	System status
I	Current outdoor temperature	R	Current indoor temperature

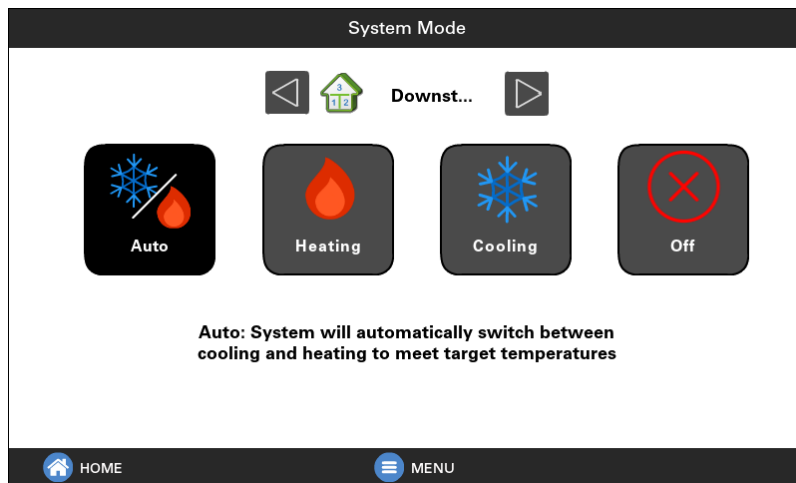
^(a) If access for this Link Zone Thermostat is restricted, the arrows used to view other zones will not be present.

Zone Mode

The Zone Mode button allows the user to choose between Auto, Heating, Cooling, and OFF operating modes.

- **Auto Mode:** allows the zone to switch between heating and cooling as needed based on the current setpoints.
- **Heating Mode:** heats as needed to maintain the current heating setpoint.
- **Cooling Mode:** cools as needed to maintain the current cooling setpoint.
- **Off Mode:** does not heat or cool the zone at all regardless of the current setpoints.

Figure 12. System Mode screen

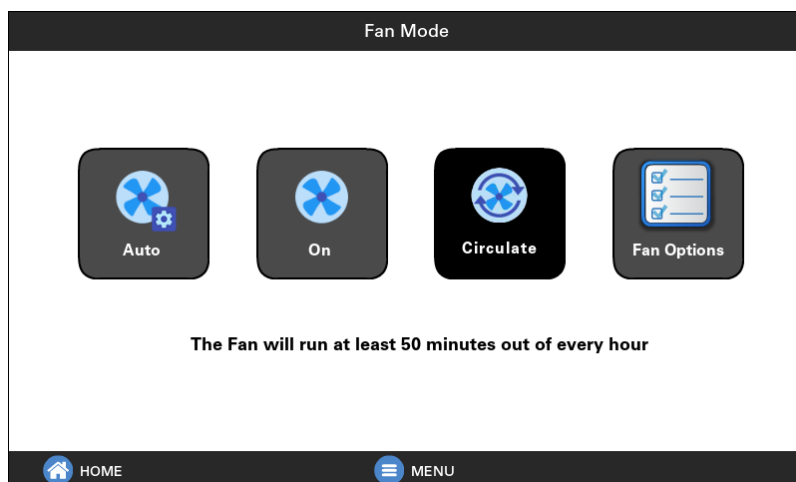


Fan Mode

The Fan Mode button allows the user to choose between Auto, On, or Circulate fan modes.

- **Auto Fan Mode:** turns the fan off and on with the heating and cooling operations.
- **On Fan Mode:** runs the fan continuously.
- **Circulate Fan Mode:** turns the fan off and on with the heating and cooling operations and runs the fan for a set amount of time each hour dependent on the **Fan Operations** settings.

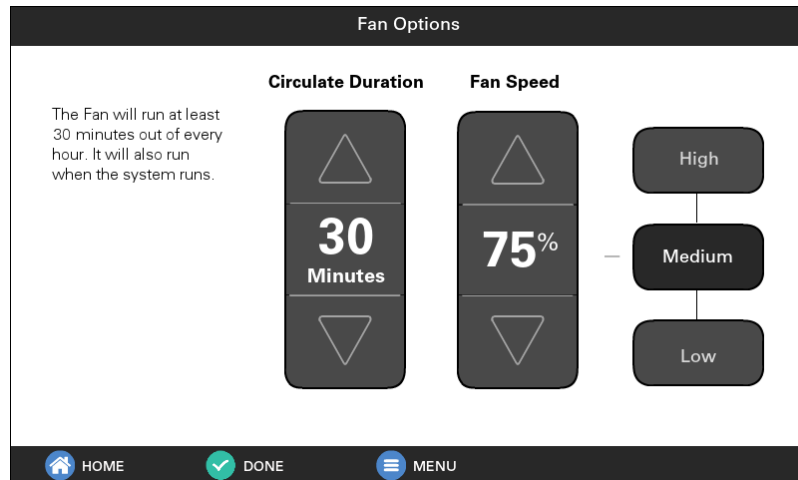
Figure 13. Fan Mode screen



Fan Options Screen

The Fan Options screen allows the user to adjust the duration and speed of the fan when operating in **Circulate Fan Mode**.

Figure 14. Fan Options screen

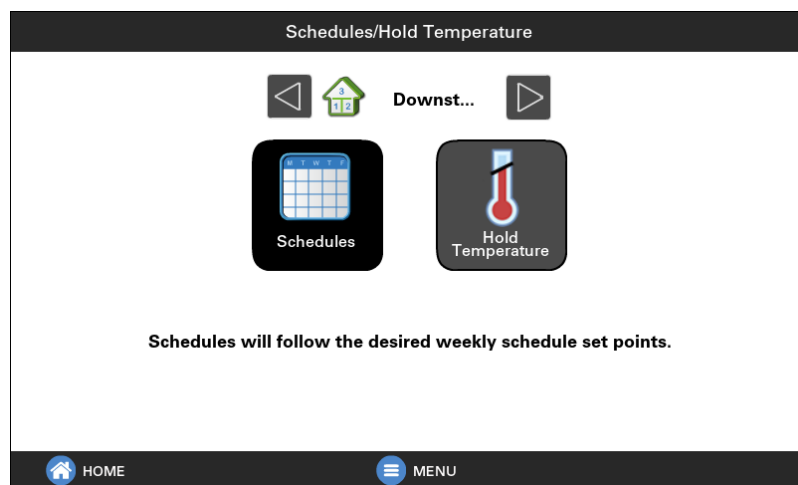


Schedule/Hold Temperature Screen

The Schedule/Hold Temperature screen allows the user to change how the heating and cooling setpoints are determined.

- **Schedules:** follow the weekly scheduled setpoints, if enabled, which are viewable and adjustable in the Home app or at the Main System user interface.
- **Hold Temperature:** maintains the current heating and cooling setpoints until the user manually changes them.

Figure 15. Schedule/Hold Temperature screen

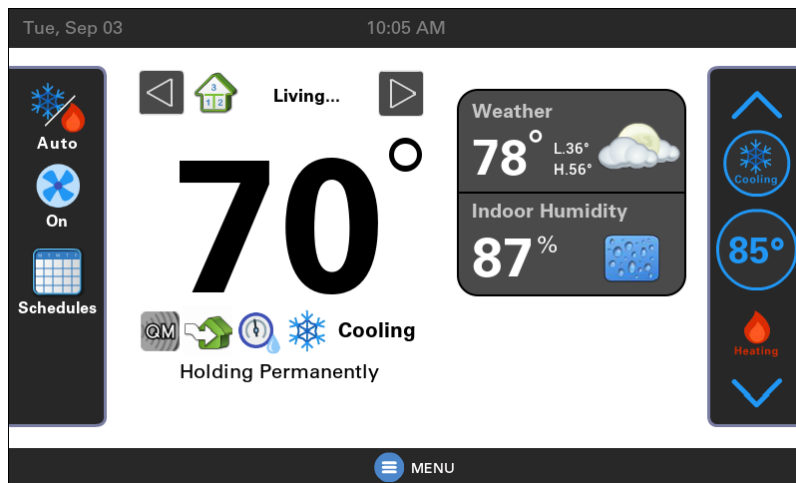


Setpoints

- Select the blue **Cooling** icon to view the cooling setpoint.
- Select the red **Heating** icon to view the heating setpoint.
- Use the **Up** and **Down** arrows to adjust the selected setpoint.

Note: When running a schedule, if the user changes the setpoint using the Up and Down arrows, that change will remain in effect until the next scheduled period, then the system will revert back to the programmed schedule setpoint.

Figure 16. Setpoints



Menu Screen

Figure 17. Menu Screen

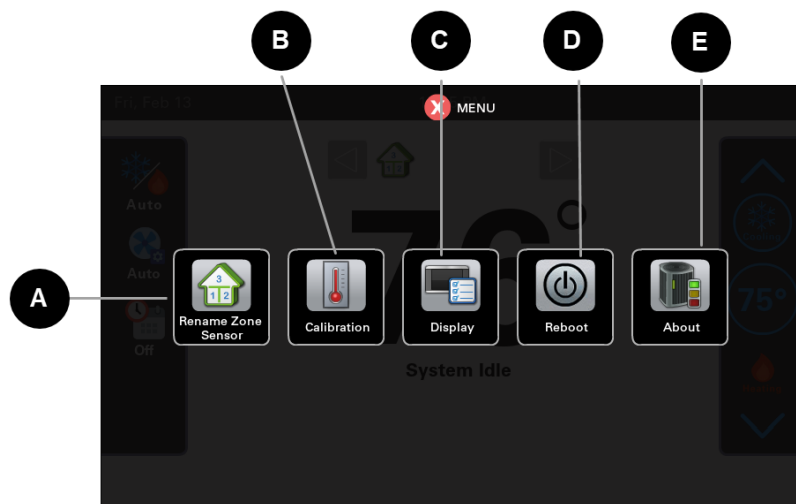


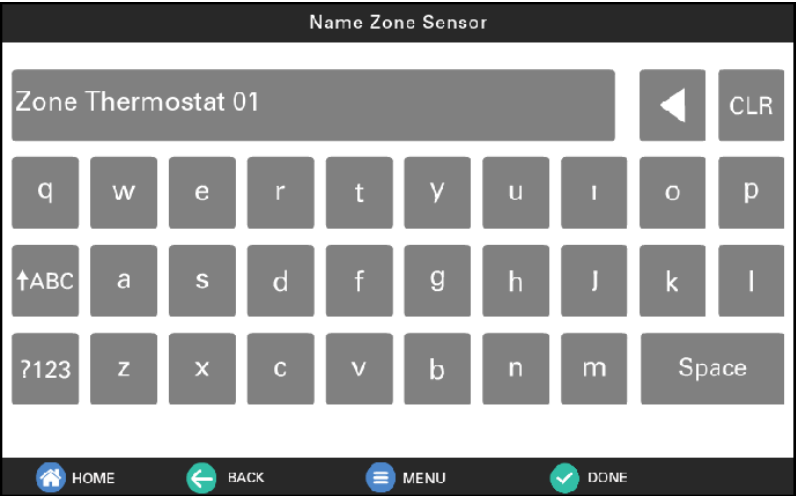
Table 3. Screen elements

Letter Callout	Description	Letter Callout	Description
A	Rename zone sensor	D	Reboot Zone Thermostat
B	Calibrate offsets (indoor temperature, indoor humidity)	E	Model and serial number, software version, and other thermostat/sensor information
C	Display features (Brightness, backlight, screen saver, color)		

Name Zone Sensor Screen

Navigate to the Name Sensor screen by selecting **Home > Menu > Rename Zone Sensor**.

Figure 18. Name Zone Sensor screen



This screen allows the user to assign a unique name to the Link Zone Thermostat:

1. On first boot up, this screen appears to allow the user to set a name for the Link Zone Thermostat/Sensor.
2. Enter a unique name (up to 20 characters).
3. Select **Done** to apply the changes.

Brightness

Navigate to the Display settings by selecting **Home Screen > Menu > Display > Brightness**.

Figure 19. Brightness

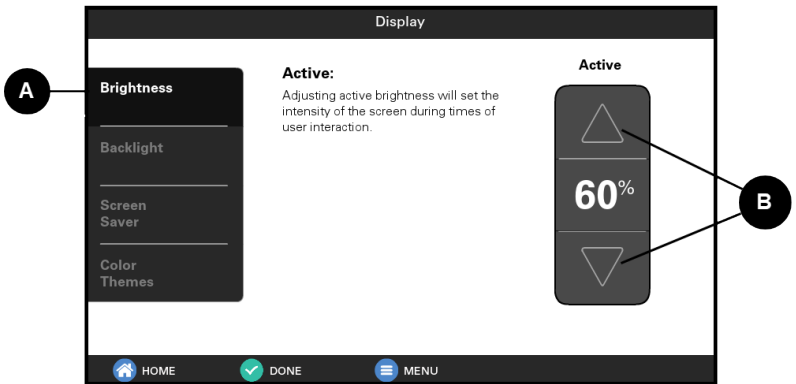


Table 4. Screen elements

Letter Callout	Description
A	Select a tab to view the different display setting options.
B	Use the Up and Down arrows to adjust the active screen brightness.

Backlight

Navigate to the Display by selecting **Home Screen > Menu > Display > Backlight**.

Figure 20. Backlight

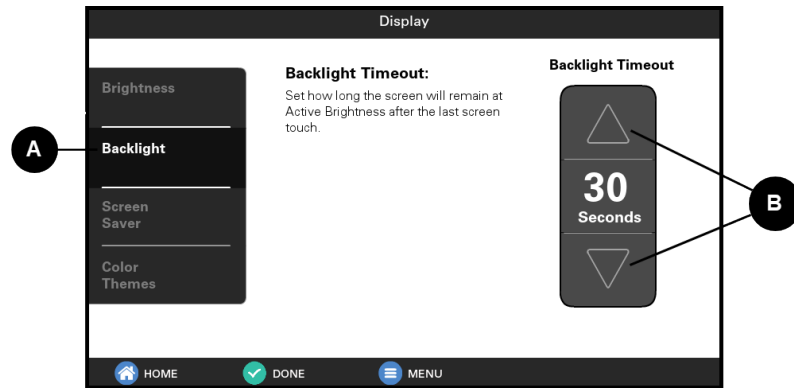


Table 5. Screen elements

Letter Callout	Description
A	Select a tab to view the different display setting options.
B	Use the Up and Down arrows to adjust the time the screen remains at active brightness after the last screen touch.

Color Themes

Navigate to the Color Themes setting by selecting **Home Screen > Menu > Display > Color Themes**.

Figure 21. Color themes

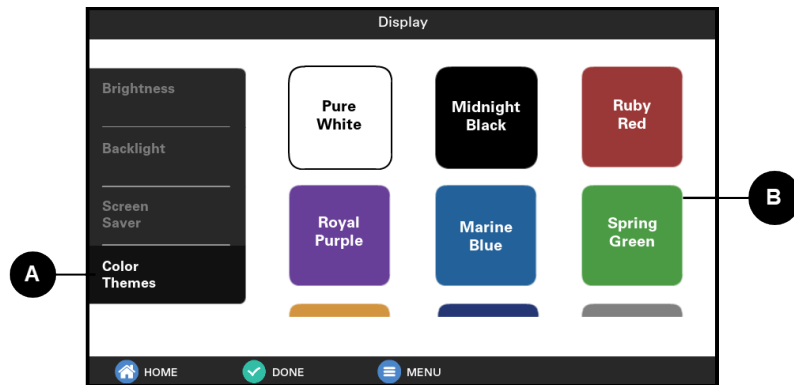


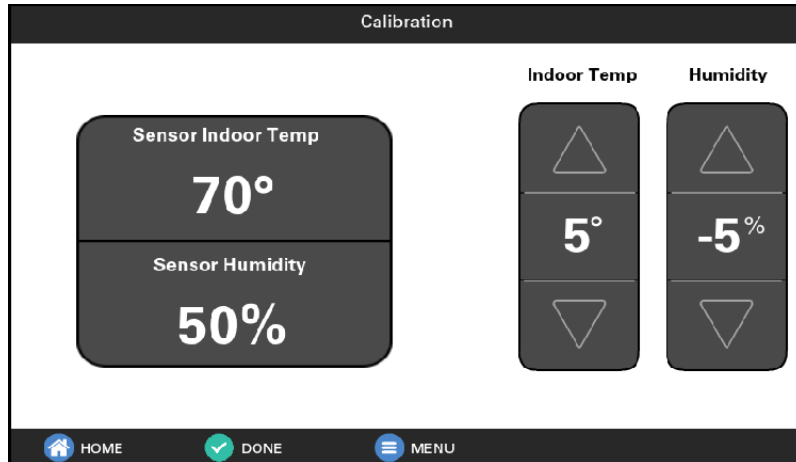
Table 6. Screen elements

Letter Callout	Description
A	Select a tab to view the different display setting options.
B	Select a custom color theme for the Zone Thermostat. Swipe up on the touch screen to scroll down to see all ten available colors.

Calibration

Navigate to the Calibration screen by selecting **Home Screen > Menu > Calibration**.

Figure 22. Calibration



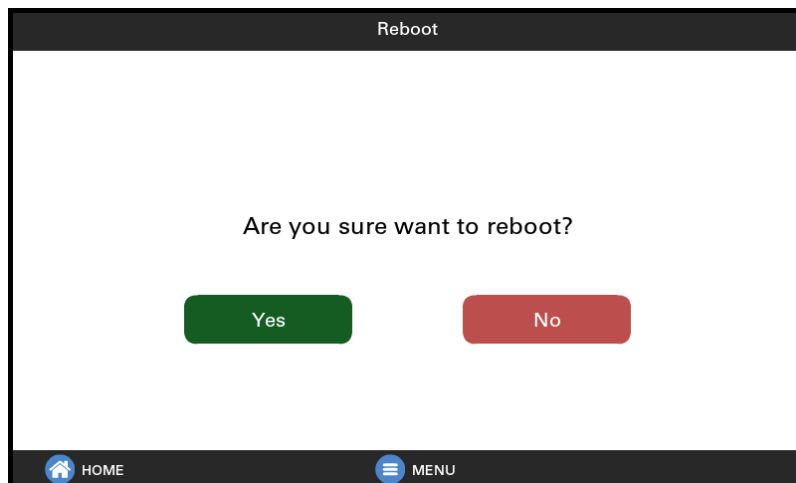
From the Calibration screen, users can:

- View the current Indoor Temperature and Humidity values.
- Adjust the Indoor Temperature and Humidity calibration by using the **Up** and **Down** arrows for each value.
- Click **Done** to apply the changes.

Reboot

Navigate to the Reboot screen by selecting **Home Screen > Menu > Reboot**.

Figure 23. Reboot



From the Reboot screen, users can:

- Reboot the Link Zone Thermostat with the push of a button.
- Select **Yes** and then confirm the request to restart.

Note: The HVAC system will not stop operation while the Link Zone Thermostat reboots.



Zone Control

The Link Zone Thermostat can monitor and allow for controlling all zones in a given system, or it can be configured so that it can only monitor and control the zone it is assigned to.

To configure this feature from the Link Systems main user interface (UX360):

1. Navigate to the Zones screen by selecting **Menu > Zones**.

Figure 24. Zones screen

Zones				
Zone Name	Temperature	Mode		
Living Room	70°	Auto	80°	75°
Downstairs	80°	Auto	75°	65°
Upstairs	60°	Auto	66°	55°
Kitchen	68°	Off		
Bedroom	82°	Heating		90°
Master	76°	Cooling	60°	

Edit Zone Names...

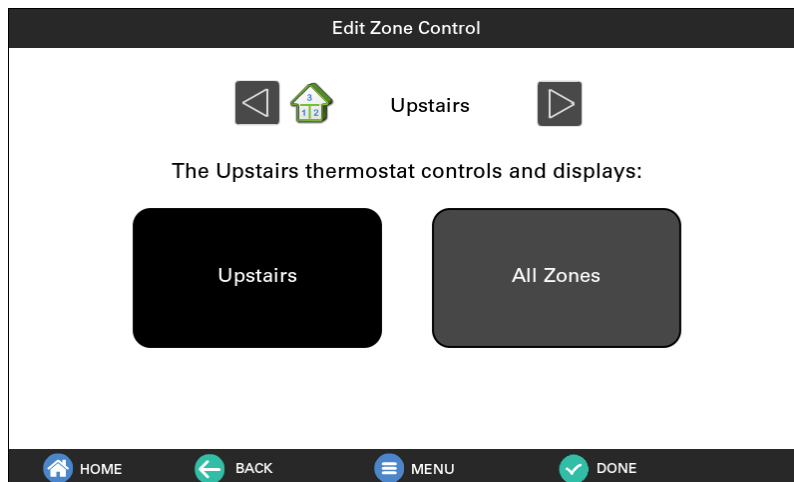
Edit Zone Control...

HOME

MENU

2. A list of all the configured zones display. To configure the Zone Control feature, select **Edit Zone Control**.

Figure 25. Edit Zone Control screen



The Edit Zone Control screen allows the user to scroll through all zones using the left and right arrows to view the current setting for each zone. Each zone can be configured to view and control All Zones or only the zone that specific Link Zone Thermostat is assigned to.

3. Select the desired setting and press **Done** to return to the Zones overview screen.

When a Link Zone Controller Zone Control is configured to only control the zone it is assigned to, the navigation arrows on the Home screen are not available and the user will only be able to view and adjust the setting for that zone.

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