SubZone

Stand-Alone or Floating Zone

Modulating Damper Controlled with Auto Changeover Programmable

WIRELESS THERMOSTAT

SUBZONE OVERVIEW

The system is designed for over-conditioned areas and prevents over-heating and over-cooling of individual or stand alone zones. The SubZone is a battery powered auto changeover programmable thermostat that communicates via an RF wireless signal to a damper control module located on a fully modulating round or rectangular damper or D-Fuser.

Auto changeover operation allows the SubZone thermostat to change from a cooling to a heating thermostat automatically. A duct sensor is included and installed upstream of the damper to determine the temperature in the duct. If the SubZone thermostat is calling for cooling and cool air is available in the duct the damper will modulate open. A heating call will close the damper. If the sensor determines warm air is available in the duct and the thermostat is calling for heat the damper will modulate open. The SubZone system senses the duct temperature and compares it to the set point vs. room temperature providing warm or cool air as required. If the thermostat is not calling for heating or cooling the damper will modulate to 40% for ventilation.

The SubZone allows you to effectively control problem areas by controlling the existing air supply to the problem room or zone. This versatile problem solver is also designed to control supplemental or auxiliary heating devices.

Zonex auto changeover programmable thermostat is designed to control and modulate a stand alone diffuser or damper. Zonex offers 600 unique sizes of round and rectangular dampers for your commercial applications.

SUBZONE FEATURES

- Auto Changeover 7-day Programmable
- Control Fully Modulating Dampers
- Display Duct Temp at the Stat
- Adjustable Aux or Reheat Operation
- F or C Temperature Operation
- Single Set Point for Easy End User Operation
- Wireless
- Setpoint lock
- Auto / Off switch
- Non volatile memory retains stored set points, date, and schedules
- Slave capability – up to 3 dampers per stat

Zonex SYSTEMS

comfort you control

SubZone solves the problem of over-heated and over-cooled rooms for your customers

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WIRING INSTALLATION INSTRUCTION

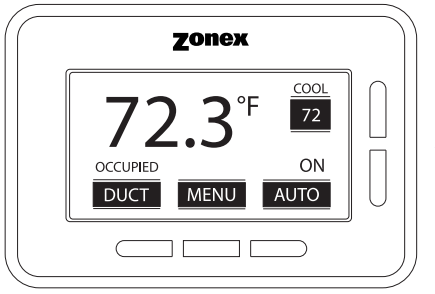
INSTALLATION

1. Install Wireless SubZone Round, Rectangular or D-FUSER Damper into the supply air duct. (Ref. Part # WST Round, WCD Rectangular WxH, WD-FUSER)
2. Install a 24 volt, 40 VA transformer in accordance with local code requirements. From the transformer - run 18/2 wire and connect to SubZone control board terminals R and C.
3. Install Discharge Air Sensor (TS) in the ductwork prior to the supply damper and run sensor wires to the SubZone control board. If wires need to be extended, 18 gauge thermostat wire may be used, not to exceed 100 ft. in length.
4. Duct Air Temperature (TS) sensor wires are connected to the TS terminals of the SubZone control board.

Once the SubZone damper with controller has been installed go to Programming and Setup Instructions on the next page.

***NOTE:** An air proving switch (field supplied) must be used for reheat applications. A field supplied relay may be required for VAV box applications.

WIRELESS ZONE THERMOSTAT



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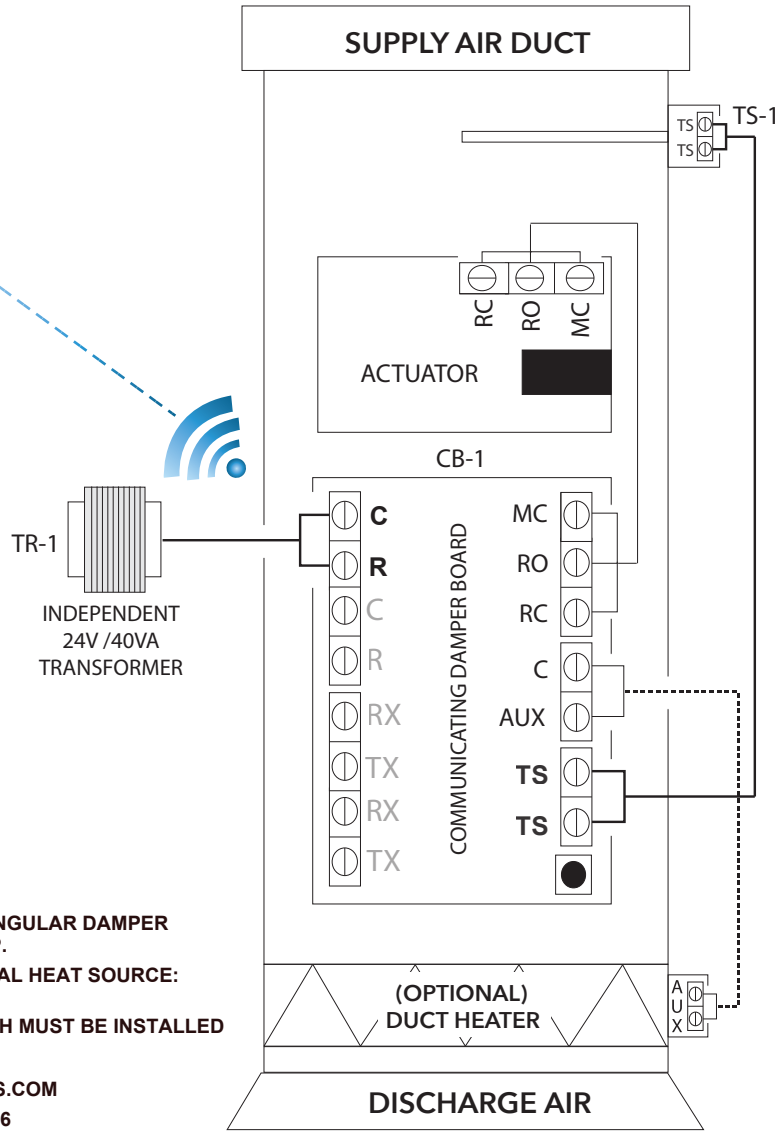

ZONEX SubZone		
		DESCRIPTION
THERMOSTAT	T - 1	SUBZONE WIRELESS STAT
TRANSFORMER	TR - 1	SYSTEM POWER 24 V - 40 VA
LAT SENSOR	TS -1	DUCT TEMPERATURE SENSOR
CONTROL BOARD	CB - 1	CONTROLLER and ACTUATOR

TERMINAL CONNECTIONS

	SUBZONE CONTROLLER and ACTUATOR
R	24 VAC POWER INPUT
C	24 VAC POWER COMMON
RO	DAMPER RUN OPEN SIGNAL
RC	DAMPER RUN CLOSED SIGNAL
MC	24 V MOTOR COMMON
TS	DUCT TEMPERATURE SENSOR
AUX	OPTIONAL AUXILIARY HEAT

NOTES:

PROVIDE MODULATING ZONEX ROUND OR RECTANGULAR DAMPER or D-Fuser DESIGNED TO SUPPORT UP TO 1.75" S.P.

AUX CONTACTS USED TO CONTROL SUPPLEMENTAL HEAT SOURCE: I.E. BASEBOARD OR RADIANT PANEL if ELECTRIC HEAT IS USED AN AIR PROVING SWITCH MUST BE INSTALLED

VISIT OUR ON-LINE CATALOG AT ZONEXPRODUCTS.COM

FOR APPLICATIONS ASSISTANCE CALL 800 228 2966

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SubZone

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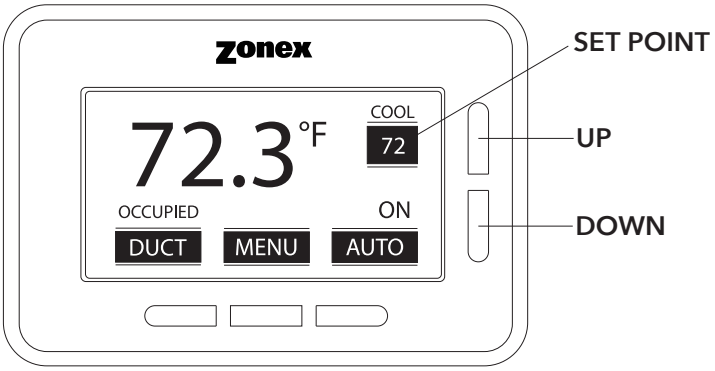
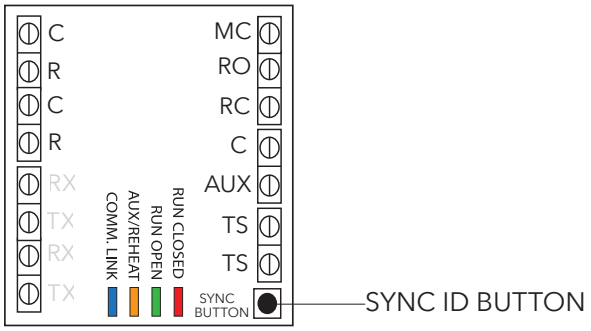
WIRELESS THERMOSTAT

OPERATING INSTRUCTION



DAMPER CONTROL BOARD



RED LED - Damper Runs ***CLOSED***
GREEN LED - Damper Runs ***OPEN***
YELLOW LED - ***AUX/HEAT*** is energized
BLUE LED - ***POWER & COMMUNICATION with the stat*** when flashing

The SubZone Wireless Thermostat communicates with SubZone Damper Controller every minute or each time the thermostat buttons are pushed, transmitting information between the SubZone Damper Controller and the SubZone Wireless Thermostat. System logic dictates system mode of operation. When duct temperature is 3 degrees or more below room displayed temperature on SubZone Wireless Thermostat, the mode is set as Cool. When duct temperature is 7 degrees or greater than room temperature as displayed on SubZone Wireless Thermostat, then mode is set for Heat. If duct temperature is neither 3 degrees below nor 7 degrees above room temperature displayed on SubZone Wireless Thermostat, then mode is set for Vent.

OPERATION

Pressing any button on the SubZone Wireless Thermostat will wake up controller providing current information about system operations.

Using the Up and Down button, select your required setpoint:

UP - Increases set point, additionally this button is used to configure time and date, set schedule.

DOWN - Decreases set point, additionally this button is used to configure time and date, set schedule.

Confirm "AUTO" icon appears above the third button on the thermostat to maintain zone comfort based on thermostat set point, room temperature and duct temperature.

FUNCTION BUTTONS

AUTO - Configures controller for AUTO mode or OFF mode

DUCT - Pressing this button displays supply air temperature

MENU - Accesses system configuration functions

SET CLOCK
SET SCHEDULE
SYNCHRONIZE DAMPER
SET STAT ID
CALIBRATE
SET AUX HEAT
TEMP FORMAT
ENERGY SAVING MODE

OCCUPIED AND UNOCCUPIED OPERATIONS

When in the Occupied mode, the SubZone will work in normal operation.

When in the Unoccupied Mode, the SubZone thermostat will power down, screen display will go blank to conserve battery life and damper will go to ventilation mode, 40% open. When it comes out of Unoccupied Mode to Occupied Mode at established setup time it will resume normal operation.

To wake the SubZone thermostat when in Unoccupied Mode, press any button to override.

TURN OFF SUBZONE

To turn SubZone Wireless Thermostat "OFF", press and hold the AUTO on the SubZone Wireless Thermostat. Hold button for 15 seconds, when "OFF" icon appears, release AUTO button. The thermostat is now "OFF" Damper will fully close or go to minimum position.

ENERGY SAVING MODE

When this menu item is selected display will go blank after 10 minutes to prolong and extend battery life. SubZone is operating fully in this mode but display is blank. To view display, press any button.

PROGRAMMING AND SETUP INSTRUCTIONS

01 INSTALL BATTERIES

Install AA batteries into the SubZone Wireless Thermostat.

02 MOUNT THERMOSTAT

Mount the SubZone Wireless Thermostat in the zone on an interior wall away from direct sunlight, supply air currents or any heat generating source. SubZone wireless thermostat needs to be mounted within 100 feet of SubZone control board.

03 SUBZONE DAMPER CONTROLLER SYNC

On the SubZone damper locate the controller damper board and press the ID button, a blue light will flash on damper board.
While blue light is flashing, press Menu button on SubZone Wireless Thermostat, scroll to "Synchronize Damper" option when highlighted, then press yes to sync SubZone Wireless Thermostat with Damper Controller. When "Sync Completed" is displayed, you have successfully paired the stat with the damper.
In applications where multiple SubZones are used, each requires a unique ID. Set Stat ID for each individually, then Sync that ID.

04 SET INTO AUTO

If Auto is not displayed, press SELECT and hold the OFF button for 15 seconds. This will place the thermostat into Auto Mode.

05 SET TIME AND DATE

Press any button to wake up the SubZone Wireless Thermostat.
Press MENU button to access configuration menu, scroll through menu using UP/DOWN buttons, when Set Clock is highlighted, press SELECT button.
The hour option will be highlighted, press UP/DOWN button to set hour and then press NEXT to move to minutes.
Once minutes are selected, use UP/DOWN buttons to select minutes.
Once minutes are selected, press NEXT.
Use the UP/DOWN buttons to select AM or PM, then press NEXT to highlight and select DAY using the UP/DOWN buttons.
Press EXIT once to finalize configuration of time and day.

06 SET SCHEDULE

To set Occupied and Unoccupied operations, press any button to wake the SubZone Wireless Thermostat.
Press the MENU button and use UP/DOWN buttons to highlight SET SCHEDULE option and press SELECT button.
"Set Time On" will be displayed, when hour is highlighted use the UP/DOWN buttons to select hour.
Press the NEXT button to set minutes, using UP/DOWN buttons. Once minutes are set, press the NEXT button to select AM/PM. Press NEXT button to set Unoccupied Operations. "SET TIME OFF" will be displayed, when hour is highlighted use the UP/DOWN buttons to select hour.
Press the NEXT button to set minutes, using UP/DOWN buttons. Once minutes are set, press the NEXT button to select AM/PM using the UP/DOWN button.
Press the NEXT button again to select Monday through Friday or ALL WEEK using the UP/DOWN button.
"MON-FRI" is factory default, with setup at 6:00 AM and setback at 6:00 PM.
To change press the UP or DOWN button. Press EXIT to complete Schedule setup.

07 SET TEMPERATURE

The SubZone Wireless Thermostat has one set point. Set point is found on the top right side of display and is increased by pressing the UP button and decreased by pressing the DOWN button. SubZone thermostat uses current room temperature, duct temperature and set point to determine when to call for cool/heat/vent mode; modulating damper in order to maintain zone comfort.

08 SETUP AUXILIARY HEAT/REHEAT

Press MENU button and scroll by pressing the UP/DOWN buttons through menu options. When SET AUX HEAT option is highlighted, press SELECT. Two options are offered, BASEBOARD or REHEAT. If BASEBOARD is desired press SELECT buttons to select desired temperature dead band by scrolling through 2, 3 or 4 degrees, when selection is highlighted, press EXIT.
Once desired HEAT DEAD BAND is set, press EXIT. Follow the same steps but highlight Reheat if desired.
This will complete the setup for Auxiliary / Reheat.

09 CHECK DUCT TEMPERATURE

Press the DUCT button to display the current duct temperature.

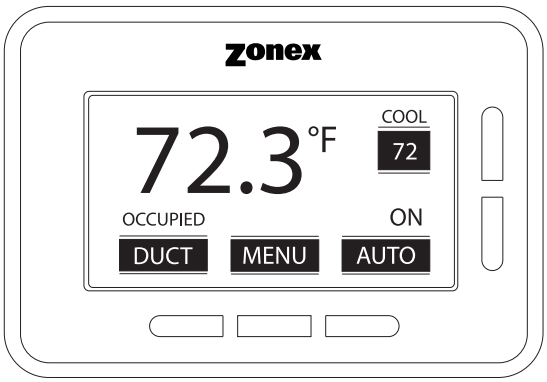
10 LOCKING SUBZONE CONTROLLER

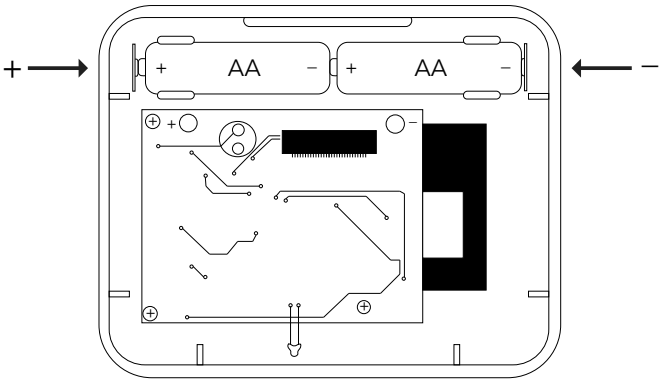
The SubZone controller can be locked hiding MENU functions and preventing set point from being changed greater than 2 degrees above or below selected set point. To lock SubZone controller, press and hold DUCT button for 10 seconds. To unlock, press DUCT button for 10 seconds; MENU will be visible and temperature set point can be changed.

SETUP INSTRUCTIONS

BATTERY INSTALLATION/REPLACEMENT

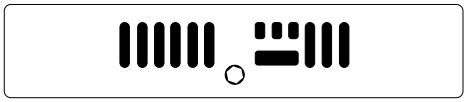
The SubZone Wireless Thermostat requires two AA batteries. When the battery ICON on SubZone wireless controller indicates batteries are low, replacement of batteries is required. To access batteries, locate SubZone Wireless Thermostat set screw on the bottom of the thermostat. Turn screw clockwise - this will cause the screw to move into stat sub-base. Once set screw is free of SubZone stat, remove stat from sub-base. Remove batteries from the back of thermostat and insert replacement batteries; insuring positive and negative poles match battery to thermostat. Place thermostat on sub-base and turn set screw counter clockwise to fasten thermostat to sub-base. Reset time on the SubZone after battery replacement.





Replace with AA batteries and install the thermostat back on the mounting plate.

BOTTOM

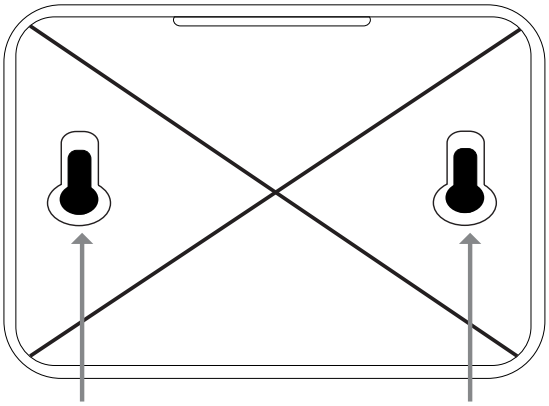


With a flat head screwdriver unscrew CW to release the thermostat from the mounting plate.

MOUNTING THE SUBZONE

Once you have determined where you want to place the thermostat place the mounting plate in that spot and with a pencil mark where the drill holes will be. Drill holes using a 1/8 drill bit. Install screw anchors supplied with the thermostat. Install the screws into the screw anchors half way and place the mounting plate over the screws. Once the mounting plate is level tighten the screws down to secure the plate to the wall. Install the thermostat back on the mounting plate and turn the flat head screw CCW to secure the thermostat back to the plate.

MOUNTING PLATE



Drill hole here Drill hole here

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