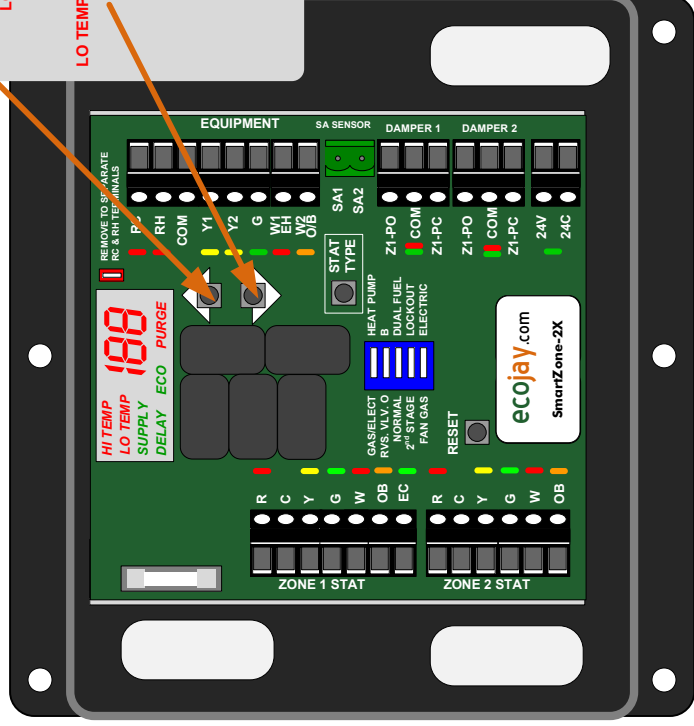


SmartZone-2X

- **ECONOMY INPUT**
- **USE ANY THERMOSTAT**
- **SMART LIMIT CONTROL™ (ELC)**
- **SUPPLY AIR SENSOR INCLUDED**
- **GAS/ELECTRIC & HEAT PUMP & DUAL FUEL**
- **2-Stage Cooling, 3-Stage Heating**
- **HIGH-VALUE FEATURES AT LOW PRICE**
- **5-YEAR LIMITED WARRANTY**

SmartZone-2X 2-Zone Controller



PUSH BUTTONS & DISPLAY

- SUPPLY** = Supply Air Temperature displayed.
- PURGE** = System is in PURGE mode for equipment changeover (Fan [G] and dampers continue to operate)
- HI TEMP (ON)** = HIGH TEMP LIMIT sensed, SmartZone Controller shut off the HEAT output for a minimum of 3 minutes (Fan [G] and damper outputs continue to operate)
- HI TEMP (FLASHING)** = Setting HIGH TEMP LIMIT – Press the UP Arrow Button one time to adjust this HIGH TEMP LIMIT using UP and DOWN Arrow Buttons
- LO TEMP (ON)** = LOW TEMP LIMIT sensed, SmartZone Controller shut off the COOL output for a minimum of 3 minutes (Fan [G] and damper outputs continues to operate)
- LO TEMP (FLASHING)** = Setting LOW TEMP LIMIT – Press the DOWN Arrow Button one time to adjust this LOW TEMP LIMIT using UP and DOWN Arrow Buttons
- DELAY** = SmartZone Controller has finished all calls and will DELAY 3 min before initiating any additional calls.
- ECO** = EC input on Zone 1 is energized and system is in ECONOMY MODE. Only Zone 1 can initiate equipment calls, other zones will only open and close dampers as needed.

SmartZone is a residential or light commercial HVAC zoning control system capable of controlling two, three or four zones on a single forced-air GAS/ELECTRIC, HEAT PUMP OR DUAL FUEL system. Each **SmartZone-2X** system utilizes standard thermostats (Gas/Electric or Heat Pump) and dampers to manage comfort of the individual zones. The SmartZone controller can operate 2 stages of compressor and 2 stages of heating plus auxiliary heat for heat pump equipment.

AVAILABLE ONLINE

WATCH FREE TRAINING VIDEOS

OTHER DOCUMENTS:
SmartZone-2X Specsheet
SmartZone System Manual

FOSSIL FUEL (DUAL FUEL) AUX. HEAT

Note 1: A DUAL FUEL KIT IS NOT REQUIRED and HEAT PUMP THERMOSTATS ARE NOT REQUIRED. Install a Heat Pump stat for the ZONE 1 Thermostat only to control EMERGENCY HEAT.

Note 2: Always install the heat pump evaporator downstream of the furnace. This prevents condensation in the heat exchanger during the cooling mode.

EMERGENCY HEAT

- Emergency Heat can only be initiated through a heat pump thermostat connected to the ZONE 1 thermostat terminal.
- If this thermostat is placed set to Emer. Heat, the SmartZone™ system is LOCKED into emergency heat. The compressor will not energize and only heating calls will be recognized from any zone other than ZONE 1.
- Only W1/EH and G will remain energized for the remainder of the heating cycle.
- To "UNLOCK" and take the system out of Emergency Heat, Remove the Emer. Heat call at the ZONE 1 thermostat and make a call for compressor heat or cooling from this thermostat.

RC/RH JUMPER

The RC/RH Jumper is Factory Installed on the SmartZone™ Controller Board. If the system being used requires separate Heat and Cool Transformers, REMOVE this jumper [JP2] at the top right of the board.

Note: In the case of a Heat-Pump System the RC/RH jumper MUST be installed.

PURGE

PURGE mode lasts three (3) minutes during which the Fan [G] continues to operate during Opposing-Call Changeover. (Switching from Heat to Cool or Cool to Heat) During the PURGE, heating or cooling equipment will not be energized. PURGE mode is designed to allow HVAC system pressures and temperatures to equalize. During the PURGE, zone(s) calling for the opposite mode will have damper(s) closed. All other dampers (non-calling zone(s) and zone(s) calling for mode last energized) will remain open during Purge Mode

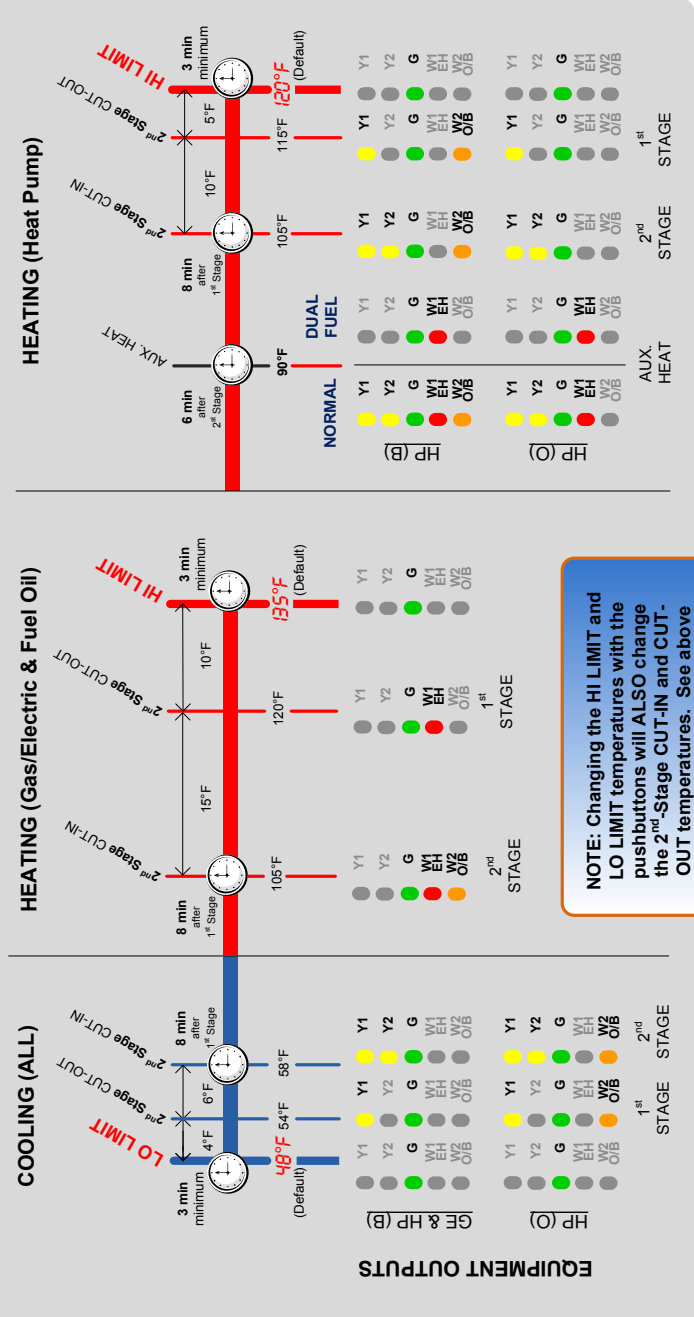
TIME DELAY

After all calls have been satisfied and the equipment is de-energized, all dampers open and a 3-minute Time DELAY will be completed before new thermostat calls will be processed. This feature is designed to protect the equipment from re-starting for 3-minutes after it has stopped running. The SmartZone™ Controller will not energize the fan. The fan may continue to run if the equipment being used has a built in "off-time-delay."

SmartZone Equipment Staging

1st stage energizes anytime there is a thermostat call from any zone on the system.
2nd stage energizes after time and temperature criteria have been met as shown in the illustrations.
 3-minute minimum run-time for second stage compressor.

EXCEPTION: If DIP switch #4 is set to the 'LOCK OUT' position: 2nd Stage WILL NOT energize unless MORE than one (1) zone is calling for the same mode.



EQUIPMENT WIRING

USE 18 GAUGE Solid Conductor Wire
NOTE: Disconnect power to equipment transformer while wiring zoning board.

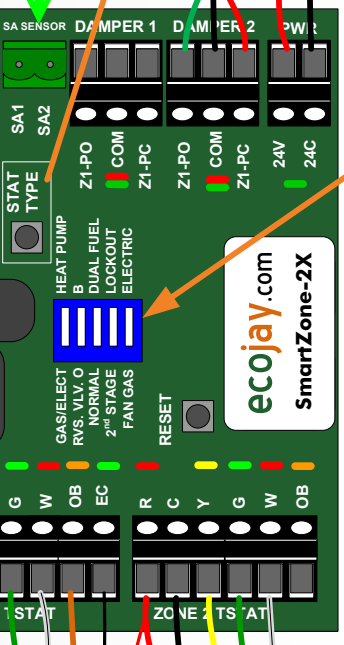
EQUIPMENT	COLOR (TYPICAL)	SmartZone
24VAC - COOLING	RED	RC
24VAC - HEATING	RED	RH
24VAC (COMMON)	-- no standard	C
COMPRESSOR (STAGE 1)	YELLOW	Y1
COMPRESSOR (STAGE 2)	-- no standard	Y2 (OPTIONAL)
FAN (BLOWER)	GREEN	G
HEAT (STAGE 1) or EMER. HEAT	WHITE	W1-EH
HEAT (STAGE 2) or RVS. VALVE	ORANGE	W2-O/B (OPTIONAL)

ECONOMY MODE SWITCH

(OPTIONAL) A CONNECTION CAN BE MADE BETWEEN 24V and EC INPUT to put the SmartZone System in ECONOMY MODE. This means the SmartZone board will not make calls to the equipment unless the ZONE 1 Thermostat makes a call. All other zones will still open and close as needed but no equipment will run.
APPLICATION: A simple timer could be used to put the entire system into economy mode after-hours OR a wall switch connected to this terminal would allow the user to simply 'switch' the system into ECONOMY MODE



Thermostats MUST have a COMMON or be BATTERY Operated



4 DIP SWITCHES

1. GAS/ELECTRIC
2. RVS. VLV. O
3. NORMAL
4. 2nd STAGE
5. FAN GAS

#	SWITCH	Function
#1	GAS/ELECTRIC	Standard GE or All Electric Equipment
#2	HEAT PUMP	Heat Pump Equipment
#3	RVS. VLV. O	Reversing valve energized in COOLING
#4	NORMAL	Reversing valve energized in HEATING
#5	DUAL FUEL	Operates Aux. Heat WITH compressor (HP Only)
	2 nd STAGE	Operates Aux. Heat WITHOUT compressor
	LOCKOUT	2 nd Stage Active (Normal Operation)
	FAN GAS	2 nd Stage will not energize if only ONE zone open
	ELECTRIC	Energized fan after 45 second delay in heating
		Energizes fan immediately with heating

1 THERMOSTAT WIRING

USE 18 GAUGE Solid Conductor Wire
For a HEAT PUMP System with Emer. Heat: ZONE 1 TStat only will have the ability to control Emergency Heat.

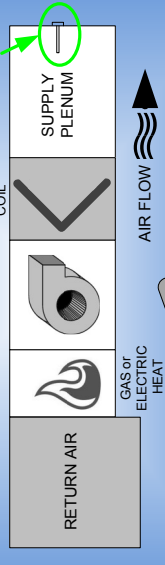
THERMOSTAT	COLOR (TYPICAL)	SmartZone
24VAC (HOT)	RED	R
24VAC (COMMON)	-- no standard	C
COMPRESSOR	YELLOW	Y
FAN	GREEN	G
HEAT or EMERGENCY HEAT	WHITE	W
REVERSING VALVE	ORANGE	O/B

2 SUPPLY AIR SENSOR (SAS)

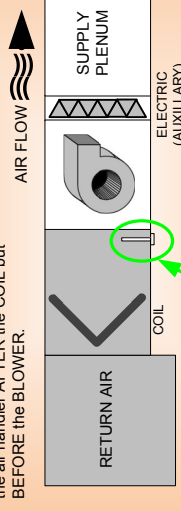
NOTE: WITHOUT this sensor, the SmartZone will ONLY respond to Zone 1 TStat and ONLY operate in 1st Stage.

Gas/Electric - The SA Sensor should be placed in the airstream, 2 to 4 feet beyond the evaporator.

Heat Pump with Dual Fuel - Same as Gas/Electric (described above)



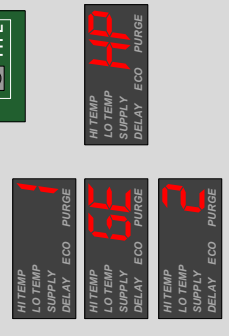
Heat Pump (Standard) - The SA Sensor should be placed in the air handler AFTER the COIL but BEFORE the BLOWER.



6 THERMOSTAT TYPE SETUP

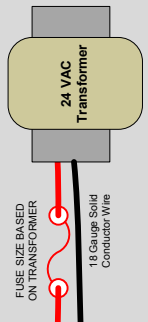
NOTE: On Heat Pump equipment, either Gas/Electric or Heat Pump Thermostats can be used. The SmartZone controller MUST be set for the thermostat type being used or the equipment will not operate properly.

1. Press the STAT TYPE Button Once to set the Zone 1 Thermostat Type. The display will flash 1 - GE or HP.
2. Press the UP or DOWN Arrow Button to toggle between GE or HP (Gas/Electric or Heat Pump)
3. Press the STAT TYPE Button AGAIN (twice) to set the Zone 2 Thermostat Type. The display will flash 2 - GE or HP
4. Press the UP or DOWN Arrow Button to toggle between GE or HP (Gas/Electric or Heat Pump)



5 POWER (24 VAC)

SmartZone System MUST BE POWERED WITH AN DEDICATED, FUSED TRANSFORMER. The size of this transformer(s) will be determined with the TABLE below.



FIELD SUPPLIED TRANSFORMER MUST BE SIZED BASED ON THE TOTAL DAMPERS AND THERMOSTATS.

ECOJOY Device	POWER
SmartZone-2X	10 VA
Power Open/Close Damper	3 VA
Spring Return Damper	10 VA
Typical Thermostat	3 VA

3 ZONE DAMPER WIRING

USE 18 Gauge Solid Conductor Wire
Multiple Dampers can be wired to each zone as necessary based on duct configuration. Up to 10 (3-Wire) dampers can be wired to any one zone damper terminal. Any 24VAC Damper can be used.

