

# DISPLAY INFORMATION

BLUE TEXT APPLIES ONLY TO HEAT PUMP EQUIPMENT (DIP SWITCH #1)

**F** FAN (ONLY)

**C** COOLING (1<sup>ST</sup> STAGE)

**C** COOLING (2<sup>ND</sup> STAGE)

**H** HEATING (1<sup>ST</sup> STAGE)

**H** HEATING (2<sup>ND</sup> STAGE)

**A** AUXILIARY HEAT

**E** EMERGENCY HEAT

**A** PURGE / CHANGEOVER

3min

**d** DELAY

EQUIPMENT OUTPUT	
G	
Y1	*NOTE: "0" WILL ENERGIZE FOR HEAT PUMP IF DIP SWITCH #2 IS SET TO "0"
G	
O*	
-----	
Y1	
Y2	
G	
O*	
-----	
<u>GAS/ELECT</u>	<u>HEAT PUMP</u>
W1	Y1
G	G
	B**
-----	
<u>GAS/ELECT</u>	<u>HEAT PUMP</u>
W1	Y1
W2	Y2
G	G
	B**
-----	
<u>NORMAL</u>	<u>DUAL FUEL</u>
Y1	W1
Y2	G
W1	
G	
B**	
-----	
***NOTE: WHEN NO TEMP SENSOR IS INSTALLED, ZONE 1 & 2 THERMOSTATS CONTROL AUX HEAT (WILL NOT AUTOMATICALLY STAGE)	

- EMERGENCY HEAT CAN ONLY BE OPERATED BY A HEAT PUMP THERMOSTAT CONNECTED TO THE ZONE 1 THERMOSTAT "W" TERMINAL. WHEN ZONE 1 THERMOSTAT CALLS FOR EMER. HEAT, THE SMARTZONE SYSTEM WILL BE LOCKED INTO EMERGENCY HEAT.
- WHEN IN EMERGENCY HEAT, THE COMPRESSOR WILL NOT ENERGIZE. HEATING CALL FROM ZONE 2 WILL BE TREATED BY THE SMARTZONE SYSTEM AS EMER. HEAT TO THE EQUIPMENT (INCLUDING W OR Y CALL FROM ZONE 2) AND COOLING CALLS FROM ZONE 2 WILL BE IGNORED
- TO UNLOCK EMER. HEAT, MAKE A CALL FOR COMPRESSOR (NORMAL HEAT OR COOLING) CALL ON ZONE 1 THERMOSTAT
- PRESS THE BUTTON TO SEE "L E H" SCROLL ON THE DISPLAY (LOCKED EMERGENCY HEAT) BEFORE THERMOSTAT MODES & SUPPLY TEMP

IF EACH ZONE THERMOSTAT IS CALLING FOR A DIFFERENT MODE (HEAT & COOL), SMARTZONE-2L WILL INITIATE A PURGE/CHANGEOVER AFTER 15 MINUTES OF CONTINUOUS RUN TIME IN ONE MODE. DURING PURGE (3 MINUTES), THE EQUIPMENT FAN (G) WILL RUN AND THE LAST CALLING ZONE DAMPERS WILL REMAIN OPEN. AFTER THE PURGE, THE EQUIPMENT WILL ENERGIZE IN THE NEW MODE AND THE CORRECT DAMPERS WILL OPEN AND CLOSE. THIS WILL OCCUR EVERY 15 MINUTES UNTIL CALLS ARE SATISFIED.

3 MINUTE MINIMUM OFF TIME FOR EQUIPMENT. DURING DELAY ALL DAMPERS OPEN.

FLASHING **L**

## TEMPERATURE LIMIT

FLASHING **C**

LO TEMP (COOL LIMIT)

FLASHING **H**

HI TEMP (HEAT LIMIT)

TEMP SENSOR BLINK = NO TEMP SENSOR CONNECTED  
ON = SENSOR CONNECTED

## STAGE TIMING

IF NO TEMP SENSOR INSTALLED, STAGING WILL BE BASED ON TIME ONLY

8min

## TEMP LIMITS

OPTIONAL SUPPLY TEMP SENSOR (ASAS) REQUIRED FOR SMART-STAGING & EQUIPMENT LIMITS

**CUT OUT:** SUPPLY TEMP < LOW TEMP

**CUT IN:** SUPPLY TEMP > LOW TEMP + 10°

**CUT OUT:** SUPPLY TEMP < LOW TEMP + 4°

**CUT OUT:** SUPPLY TEMP > HI TEMP

**CUT IN:** SUPPLY TEMP < HI TEMP - 25°

**CUT OUT:** SUPPLY TEMP > HI TEMP - 10°

**CUT IN:** SUPPLY TEMP < HI TEMP - 15°

**CUT OUT:** SUPPLY TEMP > HI TEMP - 5°

**CUT IN:** SUPPLY TEMP < 90°

**CUT OUT\*\*\*\*:** SUPPLY TEMP > 100°

8min

4min

2min

AFTER 2<sup>ND</sup> STAGE\*\*\*

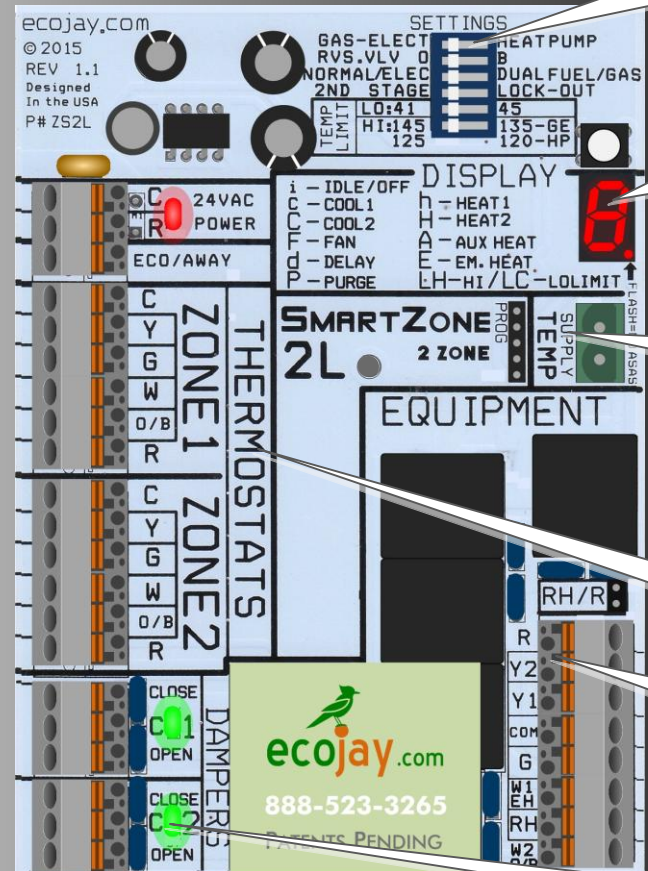
# SMARTZONE<sup>®</sup>-2L

## 2-ZONE UNIVERSAL CONTROL

GAS / ELECT • HEAT PUMP • DUAL FUEL  
2 STAGE COOL — 3 STAGE HEAT

PART# ZS2L

P# ZS2L-T  
INCLUDES TEMP SENSOR



SIMPLE & EASY DIP SWITCH CONFIGURATION OF EQUIPMENT TYPE & SETTINGS

COMPREHENSIVE DISPLAY SHOWS MODES, STATUS & MORE (PRESS BUTTON)

OPTIONAL SUPPLY TEMP SENSOR [PART# ASAS] FOR IMPROVED EQUIPMENT PROTECTION & SMART-STAGING

USE ANY 24V THERMOSTAT

CONTROL ANY 24V SINGLE OR MULTI-STAGE EQUIPMENT

USE ANY 2 OR 3 WIRE 24VAC DAMPER  
GREEN = OPEN

## INSTALLATION GUIDE

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# SMARTZONE<sup>®</sup>-2L

## INSTALLATION & CONFIGURATION

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SUITE 500-281  
GRAPEVINE, TX 76051  
1-888-523-ECOJAY (3265)  
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NOTE: BLUE TEXT APPLIES TO HEAT PUMP APPLICATION ONLY

### 1 POWER

- CONNECT POWER AFTER ALL OTHER WIRING COMPLETED
- USE DEDICATED 24VAC TRANSFORMER (NOT INCLUDED)
- DO NOT USE EQUIPMENT TRANSFORMER
- ALWAYS USE FUSED TRANSFORMER
- USE A DEDICATED PRIMARY CIRCUIT WHEN POSSIBLE

#### 24VAC TRANSFORMER SIZE

# OF DAMPERS	SPRING (DS*S)	POWER (DS*P)
2-3	40 VA	40 VA
4-6	75 VA	40 VA
8-9	100 VA	40 VA
10+	SEE "SmartZone INSTALL & OPERATION"	

TRANSFORMER	FUSE SIZE
40 VA	≤2A
75 VA	≤3A
100 VA	≤4A

#### ECO / AWAY:

ENERGIZE THIS INPUT WITH 24VAC TO ENABLE ZONE 1 ONLY CONTROL. ZONE 2 CANNOT MAKE EQUIPMENT CALLS ECO / AWAY ACCESSORY SWITCH PART # AESW

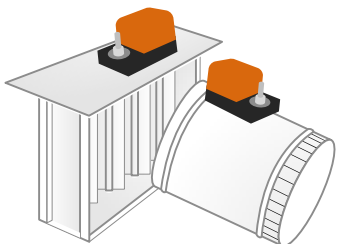
### 2 THERMOSTATS

- MUST MATCH EQUIPMENT TYPE (HEAT PUMP OR GAS/ELECTRIC)
- ANY 24VAC THERMOSTAT W/ COMMON USE 18 AWG SOLID WIRE

HEAT PUMP	TERMINAL	COLOR
	24VAC (COMMON)	BLUE/BLK
	COMPRESSOR	YELLOW
	FAN (BLOWER)	GREEN
	EMERGENCY & AUX HEAT	WHITE
	O/B (REVERSING VLV)	ORANGE
	24VAC (HOT)	RED
ZONE 1 ONLY EM. HEAT CONTROL (SEE BACK)		
GAS/ELECTRIC	TERMINAL	COLOR
	24VAC (COMMON)	BLUE/BLK
	COMPRESSOR (COOLING)	YELLOW
	FAN (BLOWER)	GREEN
	HEAT (ELECT. OR GAS)	WHITE
	24VAC (HOT)	RED

### 3 DAMPERS

- 2 WIRE OR 3 WIRE 24VAC
- USE 18 AWG SOLID WIRE



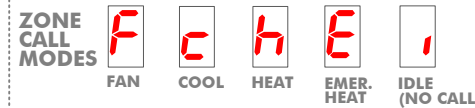
### 4 DIP SWITCH SETTINGS

OFF (LEFT)	ON (RIGHT)
CONVENTIONAL EQUIPMENT: GAS / ELECTRIC (HEAT-COOL)	HEAT PUMP EQUIPMENT OR DUAL FUEL
ENERGIZE REV. VALVE IN COOL "O"	ENERGIZE REV. VALVE IN HEAT "B"
AUX HEAT = ELECT. HEAT STRIPS & NO HEAT FAN DELAY	AUX HEAT = DUAL FUEL (NO COMP) & 90 SEC HEAT FAN DELAY
2 <sup>ND</sup> STAGE ACTIVE (AUTOMATIC STAGING)	LOCK-OUT WILL ONLY ALLOW 2 <sup>ND</sup> STAGE WHEN BOTH ZONES CALL
LO TEMP LIMIT: 41	LO TEMP LIMIT: 45
HI TEMP LIMIT: 145 - GAS/ELECT 125 - HEAT PUMP	HI TEMP LIMIT: 135 - GAS/ELECT 120 - HEAT PUMP

### PUSH BUTTON:

MORE STATUS INFORMATION WILL SHOW ON THE DISPLAY AFTER BUTTON PRESS: ZONE 1 CALL, ZONE 2 CALL, SUPPLY TEMP (IF SENSOR INSTALLED)

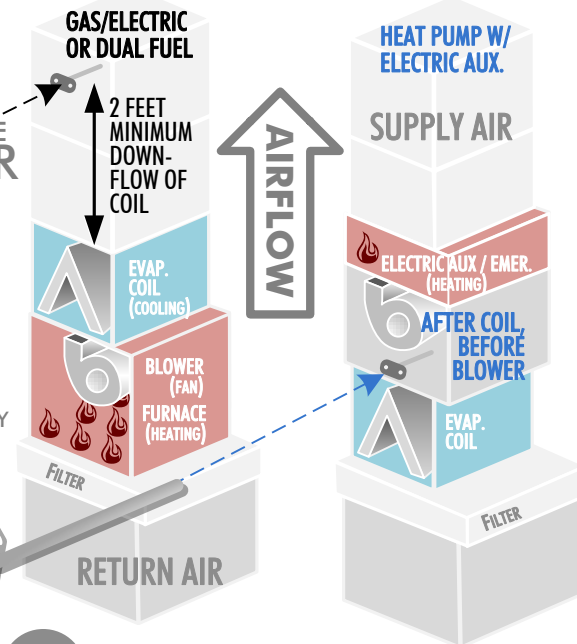
IF TEMP SENSOR (ASAS) INSTALLED: SUPPLY TEMPERATURE WILL SCROLL ON THE DISPLAY EVERY 10 SECONDS AUTOMATICALLY



SPECIAL MODES WILL DISPLAY BEFORE THE ZONE MODES WHEN BUTTON IS PRESSED:  
ECO ECO/AWAY MODE SEE LEFT PAGE  
LEH LOCKED EMER. HEAT SEE BACK PAGE

### 5 SUPPLY TEMPERATURE SENSOR (OPTIONAL)

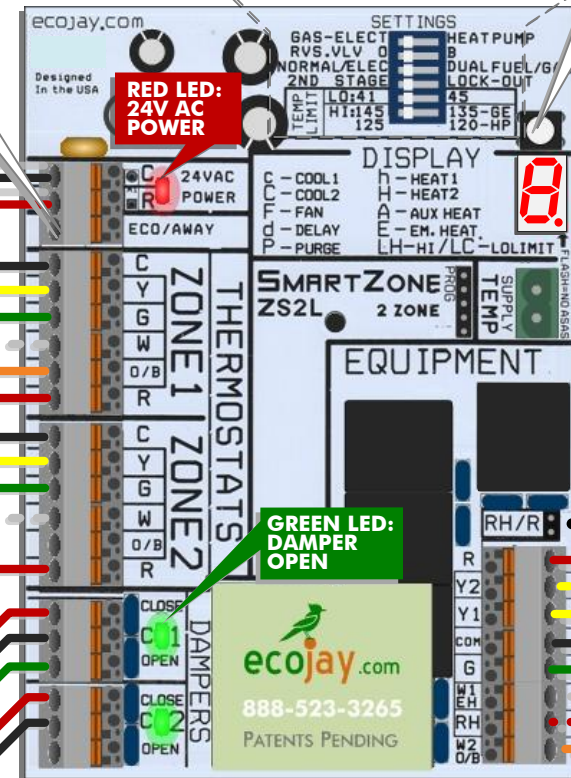
- EQUIPMENT PROTECTION
- IMPROVE EFFICIENCY OF STAGING
- PREVENT UNNECESSARY RUN TIME



### 6 EQUIPMENT

USE 18 AWG SOLID WIRE

- R / RH JUMPER (FACTORY INSTALLED). ONLY REMOVE IF THE HEAT AND COOL EQUIPMENT HAVE SEPARATE TRANSFORMERS



#### BYPASS SIZING

BELOW CHART ASSUMES 400 CFM PER TON \*USE NEXT SIZE UP ROUND BYPASS DAMPER FOR ANY SYSTEM WITH A SINGLE ZONE LESS THAN 200 CFM.

UNIT SIZE (TONS)	ROUND DAMPER SIZE (INCHES)*
2 -2.5	10"
3 -3.5	12"
4 -4.5	14"
5	14 -16"

#### DAMPER SIZING

ROUND SIZE	NORMAL CFM	MAX CFM
6"	100	200
7"	150	250
8"	200	300
9"	300	450
10"	400	600
12"	600	900
14"	900	1400
16"	1400	2000

RECTANGULAR CFM  
\*SURFACE AREA IN SQ. FT. = ("HEIGHT" X "WIDTH") / 144  
NORMAL CFM = (SURFACE AREA IN SQ. FT.) X 600 FPM  
MAX CFM = (SURFACE AREA IN SQ. FT.) X 900 FPM

R	24VAC (R-COOLING)
Y2	2 <sup>ND</sup> STAGE COMPRESSOR
Y1	1 <sup>ST</sup> STAGE COMPRESSOR
C	24VAC (COM) EQUIPMENT
G	FAN (BLOWER)
W1	1 <sup>ST</sup> STAGE HEAT <b>EH</b> [EMERGENCY HEAT]
RH	24VAC (R-HEATING)
W2	2 <sup>ND</sup> STAGE HEAT <b>OB</b> [REVERSING VALVE]