

ECONOMIZER & SMARTZONE

TAKE ADVANTAGE OF CAPABILITIES BUILT-INTO SMARTZONE-4X WITH A FRESH AIR DAMPER AND ECONOMIZER "ENTHALPY CONTROL". AUTOMATICALLY UTILIZE OUTSIDE AIR INSTEAD OF COMPRESSOR WHEN ECONOMIZER INPUT IS ENABLED, SAVE EQUIPMENT RUN TIME AND ENERGY.

ECONOMIZER OPERATION

IF ZONE 4 SET TO "FRESH AIR MODE" (SEE BELOW), THE 'Y' TERMINAL ON ZONE 4 CAN BE ENERGIZED BY AN OUTDOOR SENSOR TO ACTIVATE "ECONOMIZER MODE".

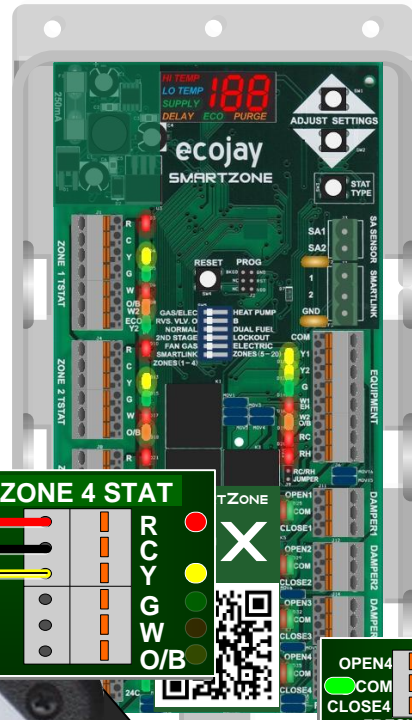
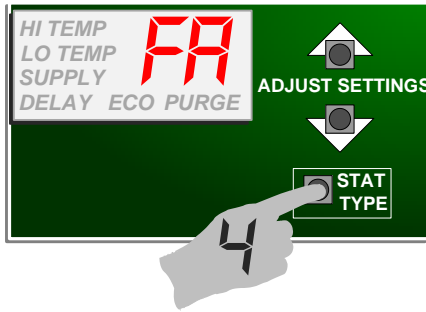
WHEN IN "ECONOMIZER MODE" COOLING CALLS FROM ZONES 1 – 3 AND UP WILL INITIATE **ECONOMIZER RUN MODE**:

- FRESH AIR DAMPER (Z-4) WILL OPEN
- EQUIPMENT FAN (G) WILL ENERGIZE
- ZONE DAMPERS CALLING FOR COOLING WILL OPEN
- EQUIPMENT COMPRESSOR (Y1) WILL NOT ENERGIZE (INITIALLY)
- IF THE SUPPLY TEMPERATURE DROPS BELOW THE LOW TEMP LIMIT**, THE FRESH AIR DAMPER WILL CLOSE BUT G WILL CONTINUE TO RUN UNTIL THE SUPPLY TEMPERATURE RISES BACK ABOVE LOW TEMP LIMIT
- **ECONOMIZER RUN MODE** WILL STOP (FA DAMPER CLOSES) AND NORMAL COOLING (Y1) WILL START IF THE SUPPLY TEMPERATURE RISES ABOVE THE ECONOMIZER HI TEMP LIMIT* FOR 3 MINUTES.

SMARTZONE SETUP FOR ECONOMIZER

- SET ZONE 4 AS "FRESH AIR" THERMOSTAT "FA"
- WIRE ECONOMIZER SENSOR AS SHOW BELOW
- ADJUST SETTINGS ACCORDING TO APPLICATION (SEE BELOW)

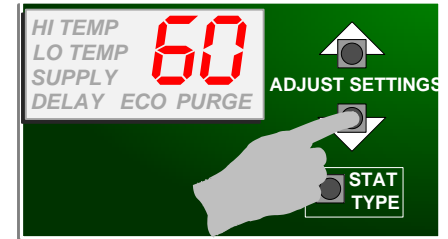
NOTE: # OF MINUTES PER HOUR CAN BE SET TO "0" FOR ECONOMIZER ONLY APPLICATION, HOWEVER, ECONOMIZER AND BASIC FRESH AIR CAN ALSO BE USED SIMULTANEOUSLY IF NEEDED.



*ECONOMIZER HI TEMP LIMIT SETTING

THIS IS A SUPPLY TEMPERATURE SETTING, ABOVE THIS TEMP, ECONOMIZER WILL TURN OFF AND COMPRESSOR WILL ENERGIZE. (NORMAL COOLING) ON THE SMARTZONE 4X

1. MAKE SURE ZONE 4 IS SET FOR "FA" SEE SMARTZONE INSTALL GUIDE
 2. THEN HOLD THE DOWN ▼ BUTTON FOR 5 SECONDS AND RELEASE
 3. "ECO AND HI TEMP" SHOULD FLASH ON THE DISPLAY, THEN USE THE ▲▼ BUTTONS TO SET (DEFAULT = 60, RANGE = 58 – 68)
- **NOTE: THE LOW TEMP LIMIT FOR ECONOMIZER IS THE SAME AS THE "LO TEMP" LIMIT FOR EQUIPMENT CUT-OUT.

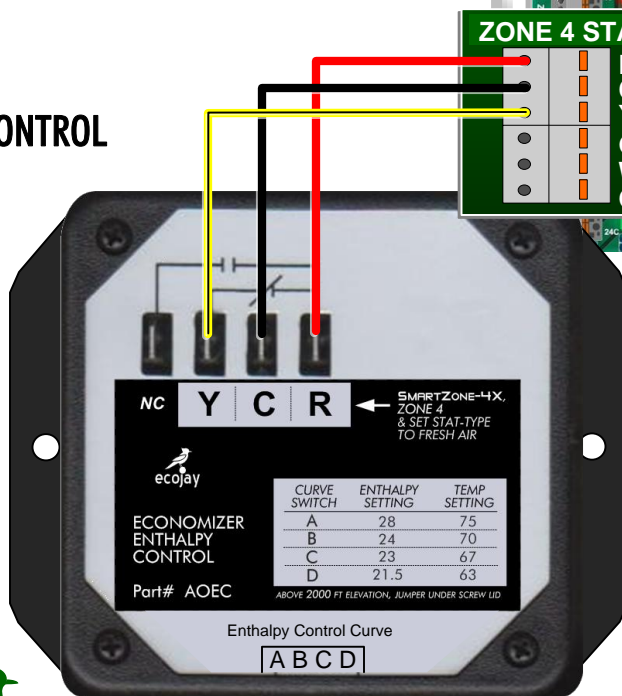


ENTHALPY CONTROL

24VAC POWER
DRY CONTACT
AUTOMATIC
ENTHALPY
CONTROL

MOUNT OUT
OF DIRECT
CONTACT WITH
MOISTURE OR
SUN

1/4" FEMALE
SPADE
CONNECTORS
REQUIRED AND
INCLUDED.



FRESH AIR DAMPER

SPRING DAMPER CAN ALSO BE USED
SEE BACK PAGE FOR MORE DAMPER
WIRING (RETURN & EXHAUST)

Enthalpy Control Curves

Curve Set Points	Enthalpy Set Point (BTU's)	Temp Set Point (°F)
A	28	75
B	24	70
C	23	67
D	21.5	63

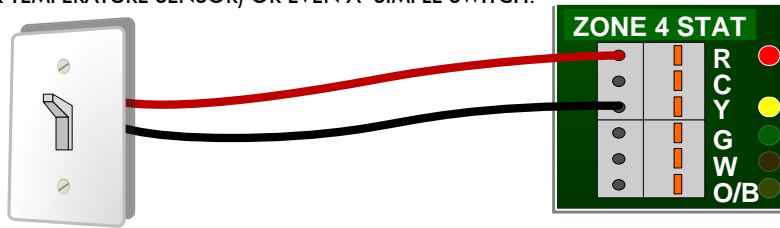
SET ENTHALPY
Below this, ECONOMIZER
will be active



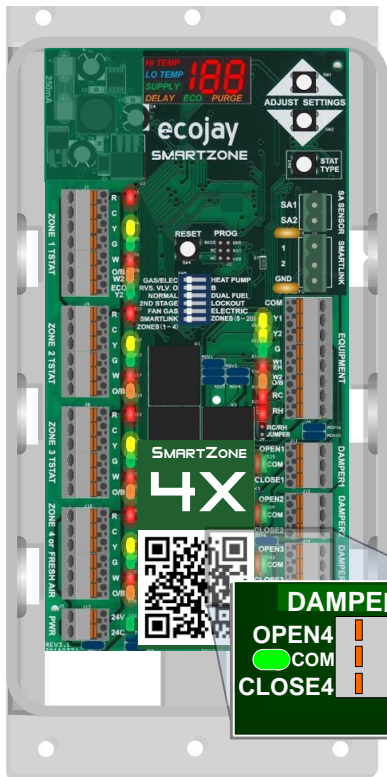
ECONOMIZER & SMARTZONE CONTINUED

ENABLE ECONOMIZER WITHOUT ENTHALPY CONTROLLER

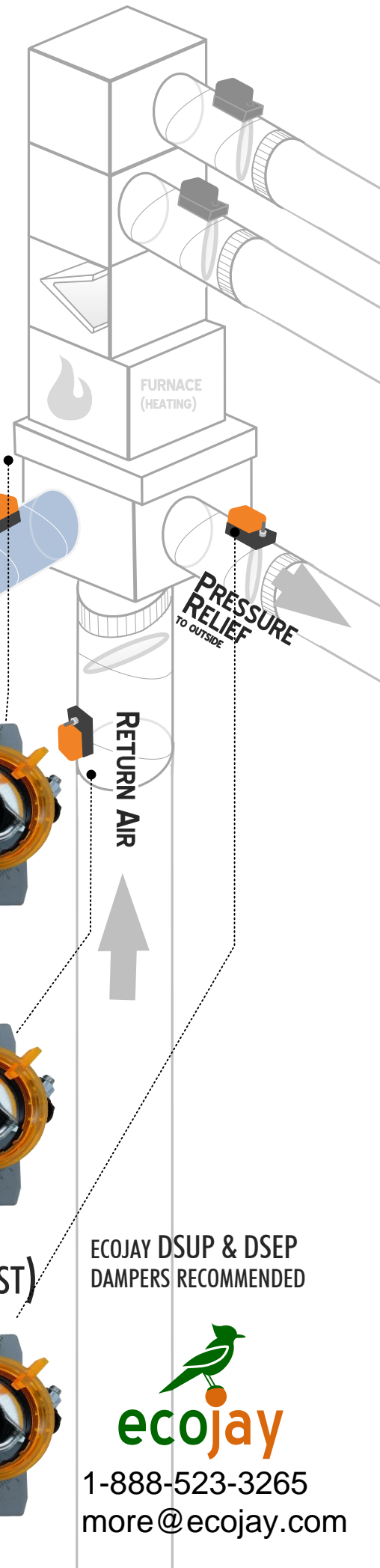
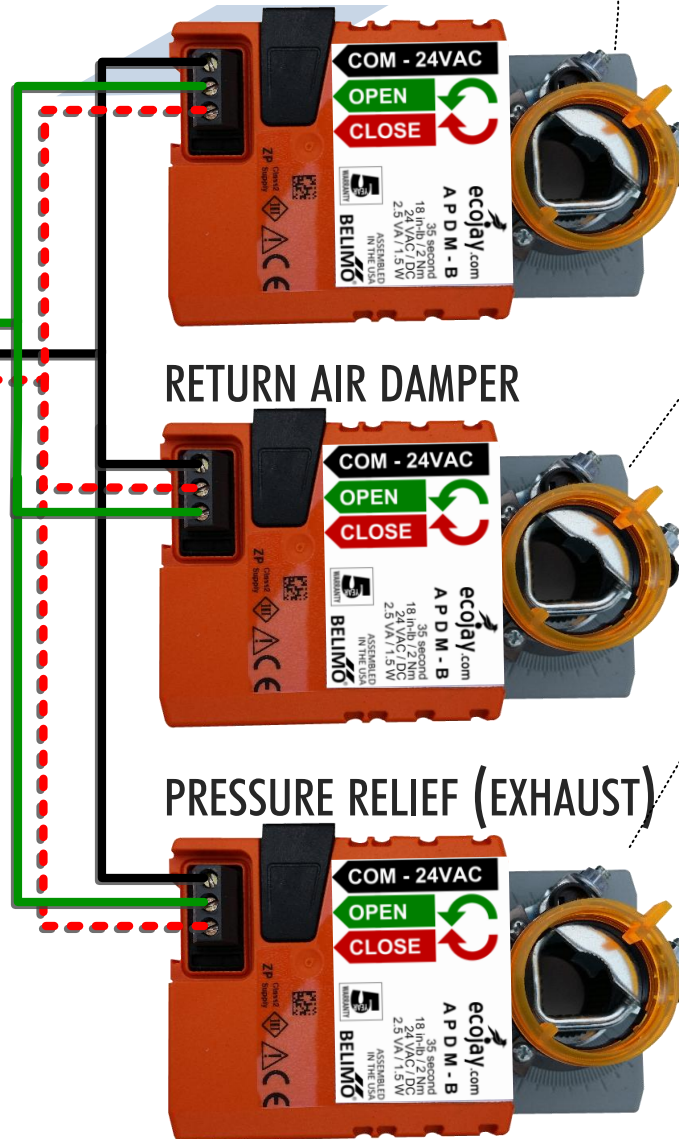
ZONE 4 THERMOSTAT CAN BE CONNECTED TO ANY DRY CONTACT (OUTDOOR TEMPERATURE SENSOR) OR EVEN A SIMPLE SWITCH.



FRESH AIR, RETURN & PRESSURE RELIEF DAMPERS TO OPTIMIZE ECONOMIZER WITH SMARTZONE



WIRING FRESH AIR DAMPER



USING 3 POWER OPEN/CLOSE DAMPERS TO CONTROL RETURN AIRFLOW DURING FRESH AIR CAN IMPROVE ECONOMIZER EFFICIENCY.

USE EQUAL SIZE DAMPERS FOR EACH OF THE THREE DUCTS:

1. FRESH AIR
2. RETURN AIR
3. PRESSURE RELIEF TO OUTSIDE*

*IN CERTAIN CASES WITH SMALL FRESH AIR DAMPERS OR LEAKY HOMES, A PRESSURE RELIEF DAMPER MAY NOT BE NEEDED. (EXHAUST)

AS THE FRESH AIR DAMPER OPENS, THE RETURN AIR DAMPER SHOULD CLOSE, FORCING OUTSIDE AIR THROUGH THE SYSTEM. AT THE SAME TIME, A PRESSURE RELIEF DAMPER SHOULD OPEN TO THE OUTSIDE FOR MAINTAINING CORRECT PRESSURIZATION OF THE HOUSE. (OTHER MEANS OF OUTSIDE EXHAUST ARE ALSO VIABLE)

ECOJAY DSUP & DSEP DAMPERS RECOMMENDED



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