

# Model 6404 Zoned Comfort Control Panel

## EVERY JOB IS DIFFERENT

Aprilaire offers flexibility for all your zoned comfort control applications by providing you with all the features you demand.

Accounting for excess system pressure is a requirement of any zone control system and we know there are many options for pressure relief. That is why Aprilaire supports all the popular options. You can choose from Aprilaire's exclusive 'Controlled Pressure Relief' method (which requires no bypass damper), using a bypass damper along with plenum temperature control, or the oversized ductwork method. (See our design guide for details.)

## THE QUALITY AND SUPPORT OF APRILAIRE

The Model 6404 Zoned Comfort Control panel offers you the quality and support you've come to expect from Aprilaire. You can count on 24-hour shipping, great technical and sales support and the most reliable dampers on the market.



**MODEL 6404**  
**SINGLE OR MULTI-STAGE HEAT/COOL OR HEAT PUMP**  
**4-ZONE CONTROL PANEL EXPANDABLE TO 12 ZONES**

### CONSUMER BENEFITS

#### ANY ZONE SETS MODE

- Provides true independent control for each zone

#### CONTINUOUS FAN BY ZONE

- Individual zone thermostats can call for fan operation

#### VACATION OPERATION

- Allows system to operate in setback from the thermostat designated Zone 1 when leaving for extended periods

#### ZONE CHANGEOVER BASED ON TIME

- If calls for opposite modes exist, the control panel will alternate to satisfy each call

#### LED STATUS INDICATORS

- Visible through the cover, these allow your customer to aid in troubleshooting

#### FAN PURGE

- Assures air is directed to last zone(s) calling

#### SHORT CYCLE PROTECTION

- Protects the HVAC equipment from too frequent cycles

#### MAINTENANCE FREE

- No maintenance or adjustments needed after installation

### CONTRACTOR BENEFITS

#### PLENUM TEMPERATURE CONTROL (ADJUSTABLE)

- Protects equipment from excessive high and low temperatures caused by reduced airflow or bypassing to the return

#### SINGLE CONTROL FOR ALL EQUIPMENT TYPES

- Operates single or multi-stage heat/cool or heat pump systems up to 12 zones

#### THERMOSTAT FLEXIBILITY

- Use single or multi-stage heat/cool or heat pump thermostats depending on the application. Simple 4-wire heat/cool thermostats can control any type of equipment.

#### LED STATUS INDICATORS (VISIBLE THROUGH COVER)

- Simplifies start up and troubleshooting

#### SELECTABLE STAGING OPTIONS

- Stage by time, thermostat input or number of zones calling

#### TIME DELAY OVERRIDE

- Speeds checkout for the installer

#### WORKS WITH 2 OR 3 WIRE DAMPERS

- Compatibility if you are changing out an old panel with 3-wire dampers

#### ADJUSTABLE PURGE TIMING

- Compatibility with all brands of equipment

#### ACCESSORY TERMINALS

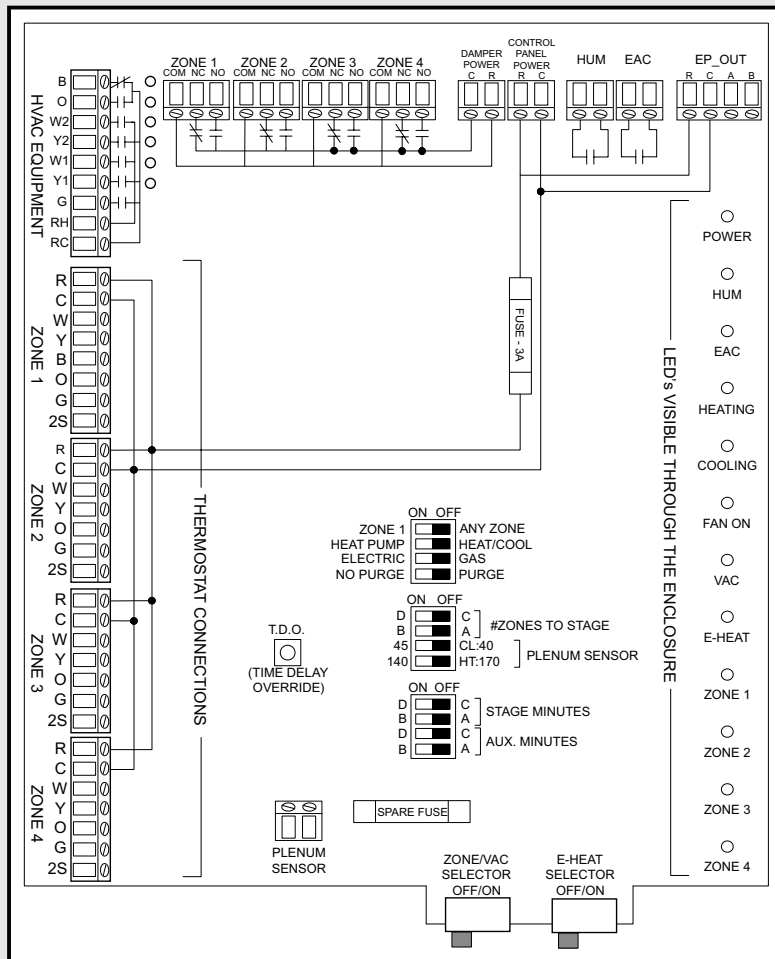
- Auxiliary output relays available to control humidifiers, electronic air cleaners or other accessories tied to heat or blower operation

#### DUAL FUEL OPERATION

- Control of heat pumps with fossil fuel auxiliary heat

# APRILAIRE MODEL 6404 ZONED COMFORT CONTROL PANEL

## WIRING DIAGRAM



## CONTROL PANEL TERMINAL DESIGNATIONS

|       |  |
|-------|--|
| R     | 24V (hot) Thermostat voltage   |
| C     | 24V (com) T-stat (if required) & damper voltage                            |
| G     | Fan (thermostats and equipment)  |
| Y/Y1  | 1 <sup>st</sup> Stage Cooling or Compressor (thermostats and equipment)    |
| W/W1  | 1 <sup>st</sup> Stage Heat or Auxiliary Heat (thermostats and equipment)   |
| Y2    | 2 <sup>nd</sup> Stage Cooling or Compressor (equipment)                    |
| W2    | 2 <sup>nd</sup> Stage Heat or Emergency Heat (equipment)                   |
| O     | Reversing Valve—Cool   |
| B     | Reversing Valve—Heat   |
| 2S    | 2 <sup>nd</sup> Stage Heat and/or 2 <sup>nd</sup> Stage Cool (thermostats) |
| NC    | Normally closed damper output  |
| NO    | Normally open damper output  |
| 24VAC | Voltage source for control panel, thermostats and dampers                  |
| RH    | Heating transformer—24V (hot)  |
| RC    | Cooling transformer—24V (hot)  |
| HUM   | Auxiliary relay active w/ heat calls                                       |
| EAC   | Auxiliary relay active w/ blower operation                                 |
| A&B   | Expansion panel connections  |

## PRODUCT SPECIFICATIONS

|                                    |  |
|------------------------------------|--|
| <b>RATED VOLTAGE</b>               | 20 to 30 VAC   |
| <b>RATED CURRENT</b>               | 3 amp  |
| <b>FUSE RATING</b>                 | 3 amp, slow blow fuse                                      |
| <b>MAXIMUM AMBIENT TEMPERATURE</b> | 140°F  |
| <b>RH AND RC TERMINALS</b>         | Independent heat and cool relays for 2 transformer systems |
| <b>PLENUM SENSOR</b>               |  |
| <b>HIGH LIMIT TEMPERATURE</b>      | Selectable between 140°F and 170°F                         |
| <b>PLENUM SENSOR</b>               |  |
| <b>LOW LIMIT TEMPERATURE</b>       | Selectable between 40°F and 45°F                           |

## TRANSFORMER REQUIREMENTS

| REQUIRED VA      | MAX. # OF POWERED DAMPERS |
|------------------|---------------------------|
| 40               | 3 or Less                 |
| 75               | 4 thru 6                  |
| 40 per 3 Dampers | 7 or more                 |

## ADDITIONAL INSTALLATION FEATURES

- 45 degree angled terminals
- Enclosure accommodates wiring from the side or rear
- Wiring diagram on front cover
- Available common terminal for 24 volt powered stats
- Compatible with power-stealing thermostats
- Fuse protection with extra fuse
- Convenient control of E-Heat through thermostat or on board switch
- Selectable - any zone sets mode or zone 1 sets mode
- Elec/non-elec selectable - proper control of the fan (G-terminal) for either electric or fossil fuel furnaces

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