

Aurora Control System

by WaterFurnace



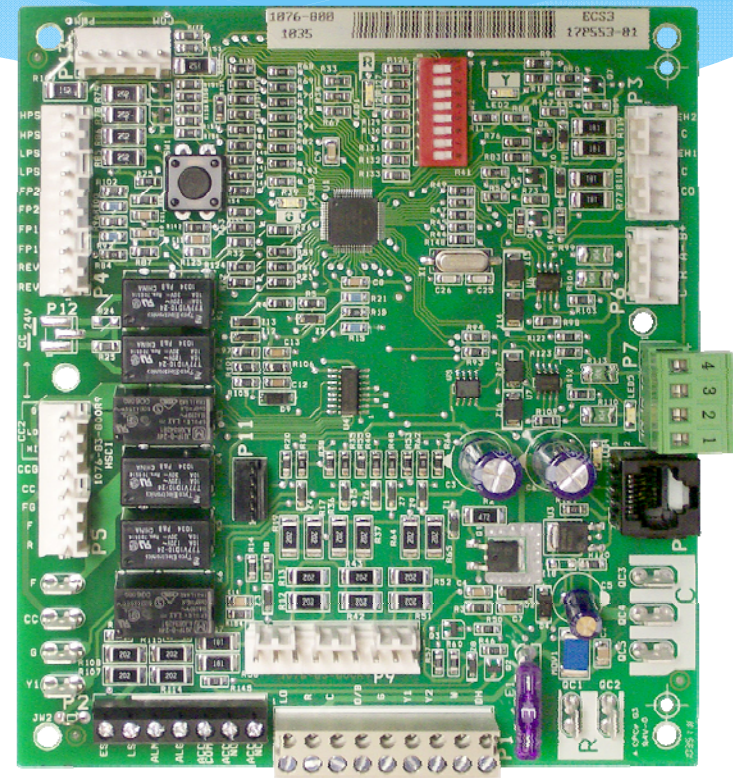
WaterFurnace
Smarter from the Ground Up™



Version: 1.1
2/28/11

Aurora Base Control Board

- * Provide basic safety shutdown, fault indication, and time delays
- * Provide control for ECM and Dual capacity unit
- * Provide Hot Gas Reheat Control on single stage compressor units
- * DIP switches for field selection of minimum configurations
- * Fault/Status/Configuration LEDs for use without AID Tool

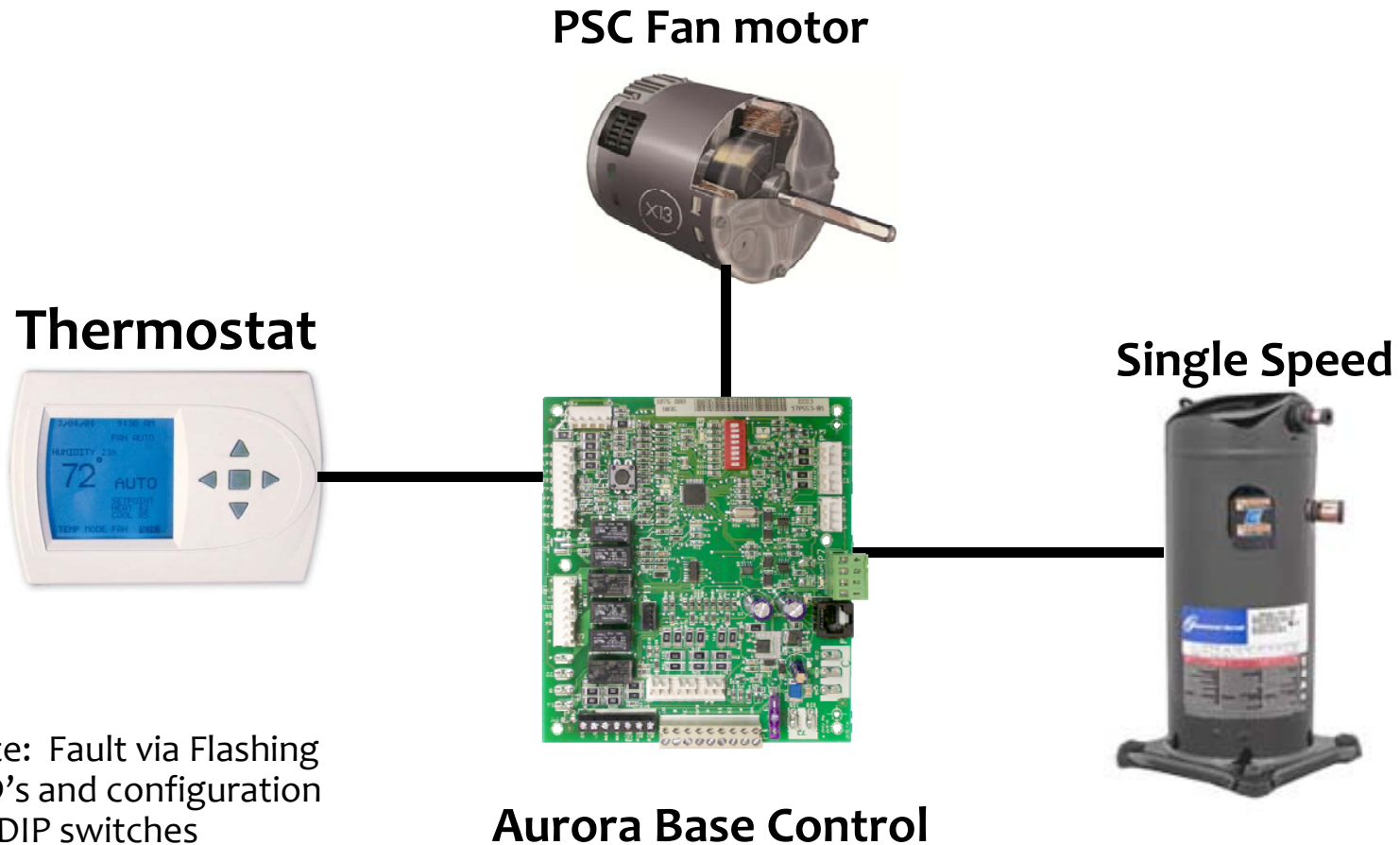


Aurora Interface Diagnostic (AID) Tool

- Low Cost Service Tool
- RJ45 'Ethernet style' connection to ABC
- Hardware based upon thermostat
- Modbus interface with Aurora Control System



Aurora Control - Ultra PSC Control



Note: Fault via Flashing LED's and configuration via DIP switches

Aurora Control - Ultra ECM Control

ECM Fan motor



PWM

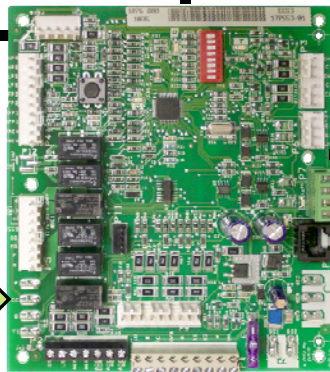
Dual or Single Scroll

Thermostat



AID Tool

Aurora Base Control



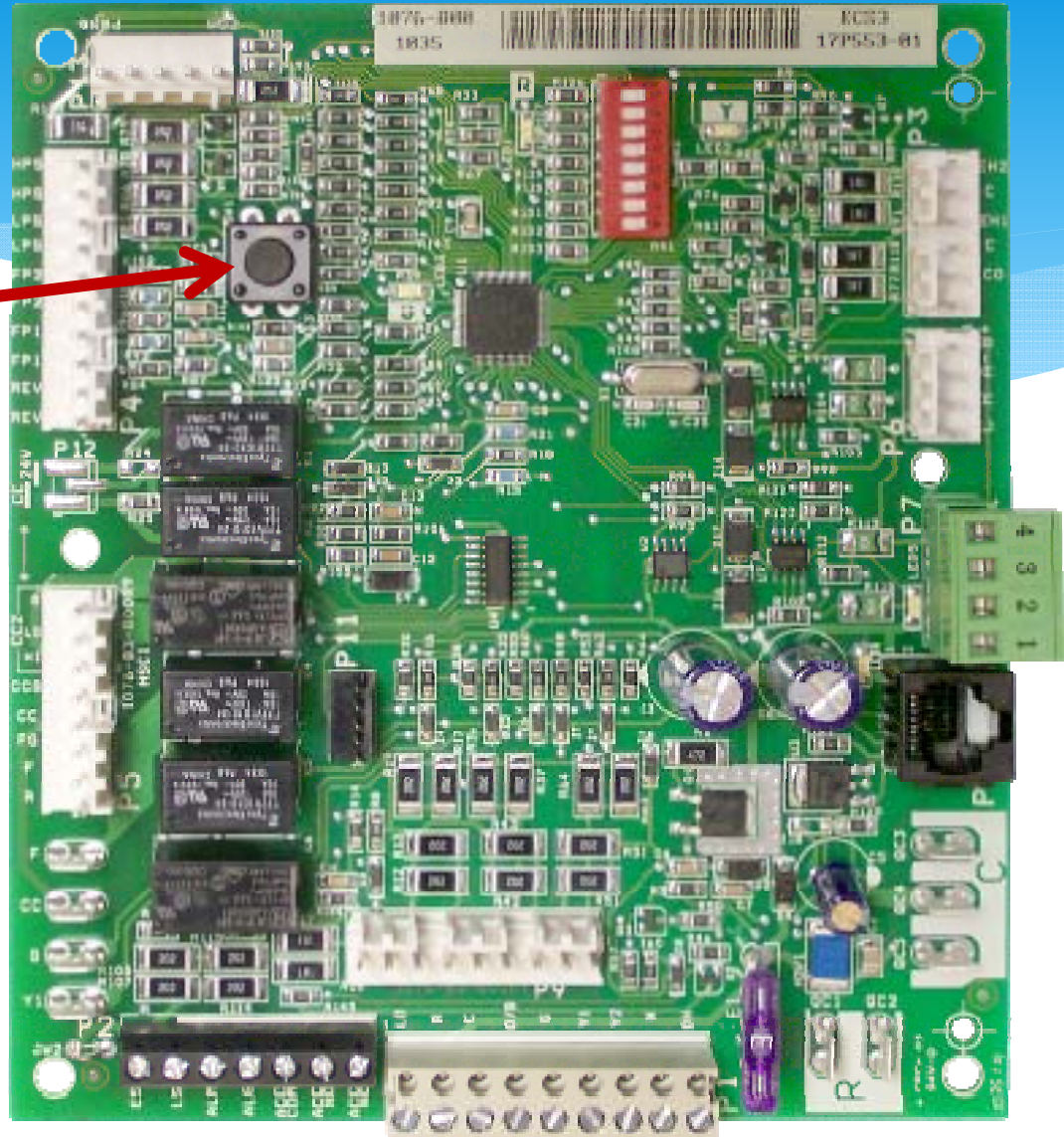
Note: Fault and configuration via Flashing LED's, DIP switches or AID tool

Aurora Board



SW1 Details

SW1
Test Mode Button &
ECM Configuration



SW1 Details

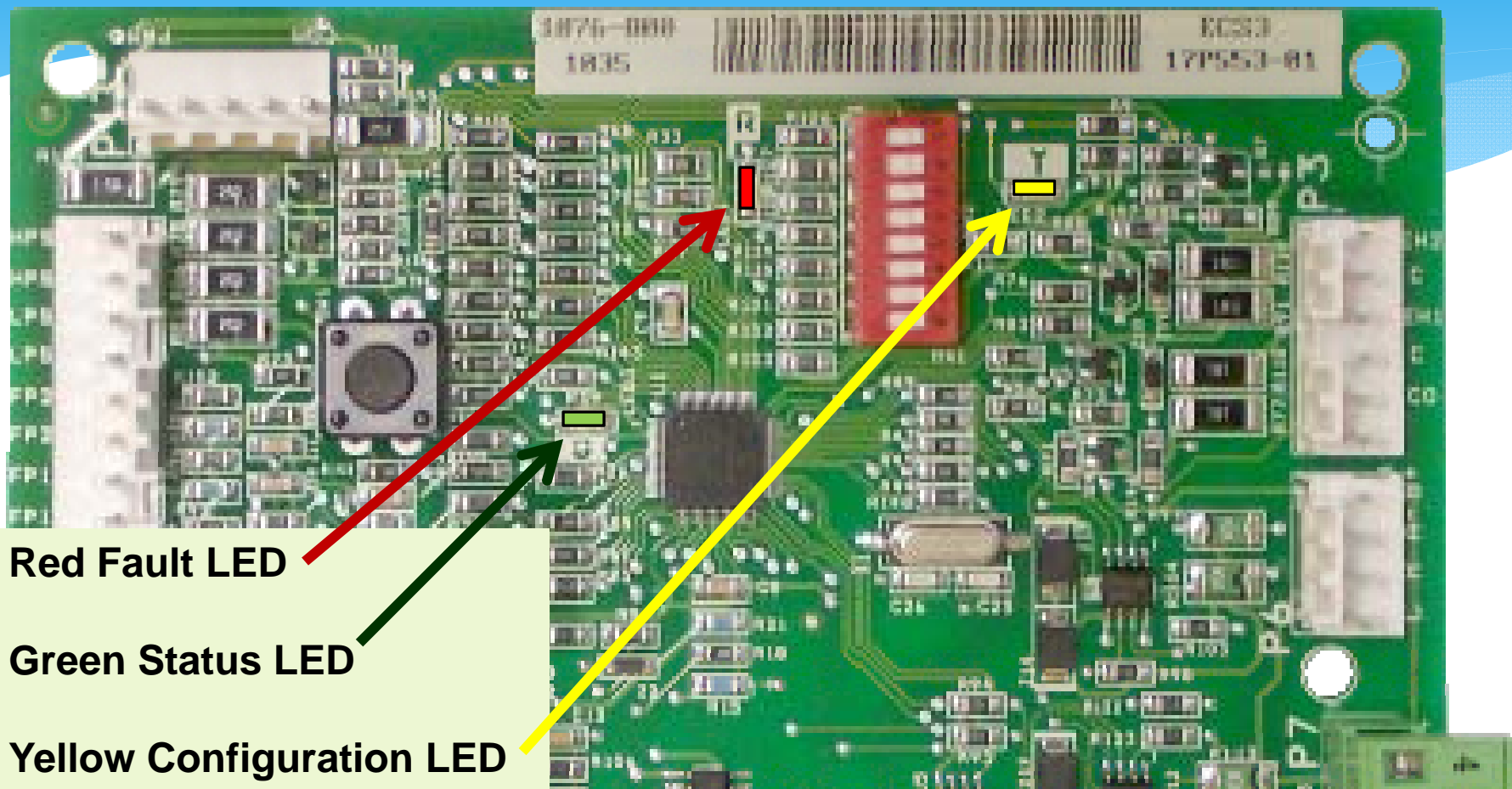
| Holding SW1 | Description of Operation | LED |
|--------------------------|---------------------------------|---------------------------|
| 2 seconds to 5 seconds | Enter test mode | Green LED slow flash |
| 5 seconds to 10 seconds | Enter ECM configure mode | Yellow LED fast flash |
| 50 seconds to 60 seconds | Reset configure mode | Green LED off |
| Longer than 60 seconds | SW1 operation cancel | Yellow LED back to normal |

* Automatically reverts to Normal Mode after 30 minutes.

SW1 Test Mode

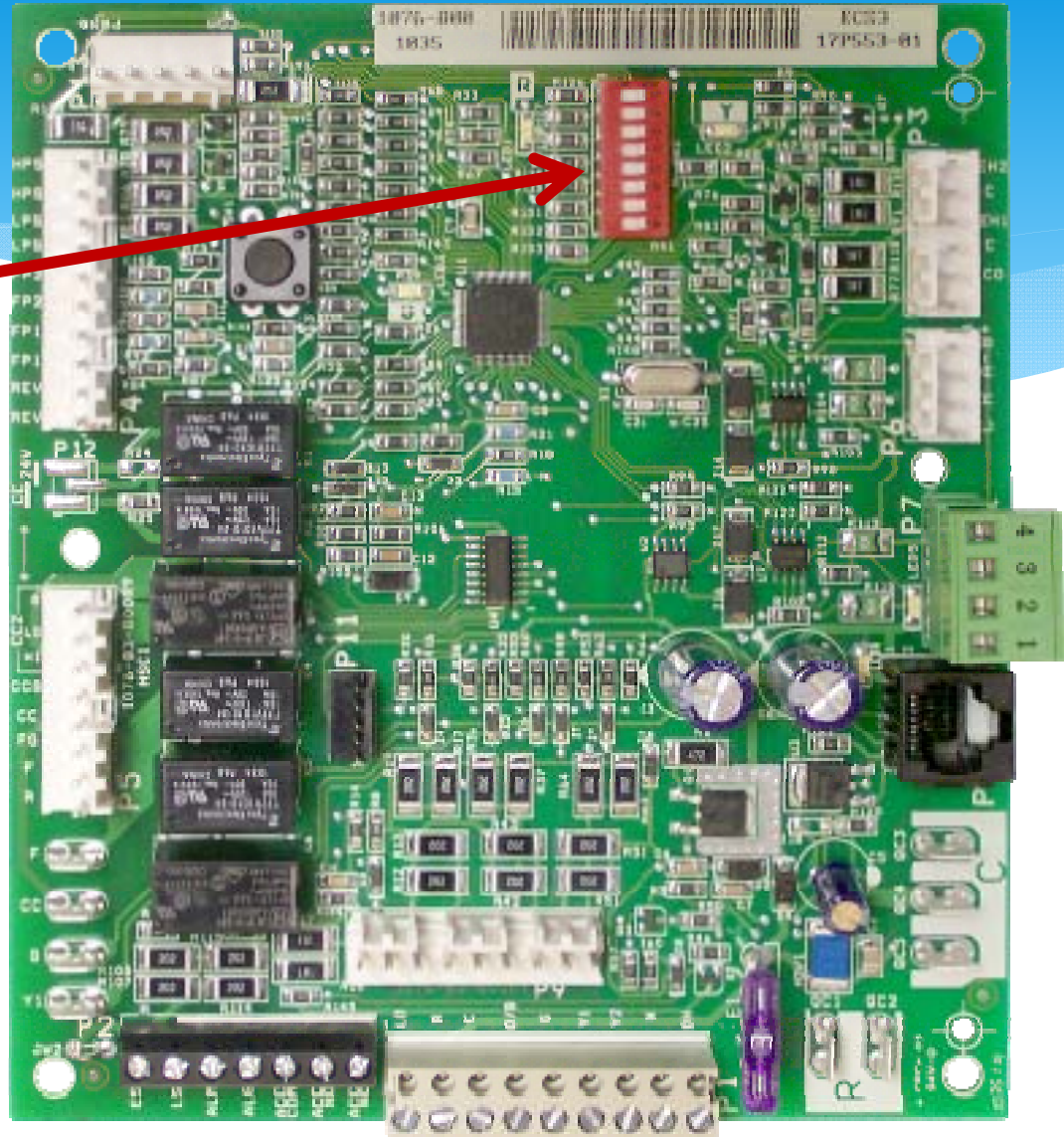
- * The control is placed in the Test Mode by holding the pushbutton switch SW1 for 2 - 5 seconds.
- * In the Test Mode most of the control timings will be shortened by a factor of sixteen (16), with exception of fault recognition times.
- * The GREEN LED will flash: 1 second on / 1 second off.
- * When entering the Test Mode, the RED LED will flash the last lockout failure code one time.
- * Test Mode will automatically time out after 30 minutes.

SW1 Test Mode



SW2 Details

SW2
Dip Switch 2-1 thru 2-8



SW2 Details

SW2 Dip Switch 2-1 thru 2-8

| | Off | On |
|----------------------|--------------------------|---------------------------------------|
| FP1 – 15°F/30°F | <input type="checkbox"/> | <input checked="" type="checkbox"/> 1 |
| FP2 – 15°F/30°F | <input type="checkbox"/> | <input checked="" type="checkbox"/> 2 |
| RV – B/O | <input type="checkbox"/> | <input checked="" type="checkbox"/> 3 |
| ACC – Dip 1 | <input type="checkbox"/> | <input checked="" type="checkbox"/> 4 |
| ACC – Dip 2 | <input type="checkbox"/> | <input checked="" type="checkbox"/> 5 |
| CC – Dual/Single | <input type="checkbox"/> | <input checked="" type="checkbox"/> 6 |
| L – Pulse/Continuous | <input type="checkbox"/> | <input checked="" type="checkbox"/> 7 |
| Reheat/Normal | <input type="checkbox"/> | <input checked="" type="checkbox"/> 8 |

SW2

SW2 Details

SW2-1

- * Freeze Protection: Dip SW 2-1
 - On = 30 F
 - Off = 15 F

SW2-2

- * *(Future Use - Disabled in Ver 1.0)*

SW2-3

- * Reversing Valve Logic
 - On = "O" RV Energized for Cooling Mode
 - Off = "B" RV Energized for Heating Mode

SW2 Details

SW2-4 and SW2-5

* Accessory Relay Configuration

| <u>Relay Function</u> | <u>SW2-4</u> | <u>SW2-5</u> |
|---|--------------|--------------|
| Cycle with Fan | On | On |
| Cycle with Compressor | Off | Off |
| Slow Opening Water Valve (Also Cycles with Compressor) | On | Off |
| Reserved for Future Use | Off | On |

SW2 Details

SW2-6

- * Compressor Configuration

SW2-6

On = Single Capacity Compressor

Off = Dual Capacity Scroll Compressor

SW2 Details

SW2-7

- * Lockout Signal and Alarm Relay Output

SW2-7

On = Fault Signal “LO” on t/stat terminal block is continuous
and the Alarm Relay Contacts close on any Fault

Off = Fault Signal “LO” on t/stat terminal block Pulses On and Off
and the Alarm Relay Contacts Opens & Closes duplicating
the Fault LED Blinking Pattern

SW2 Details

SW2-8

- * Hot Gas Reheat

SW2-8

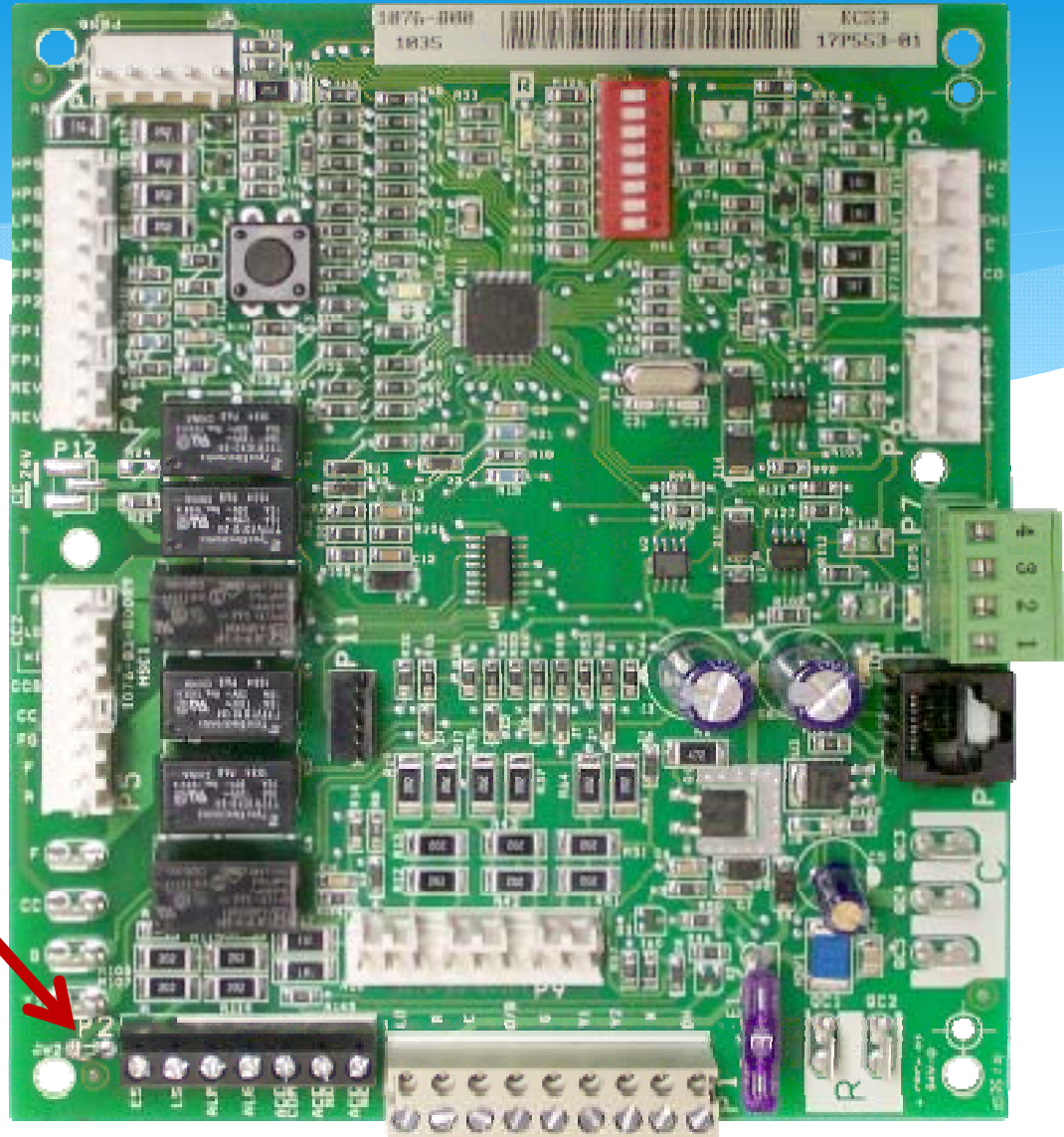
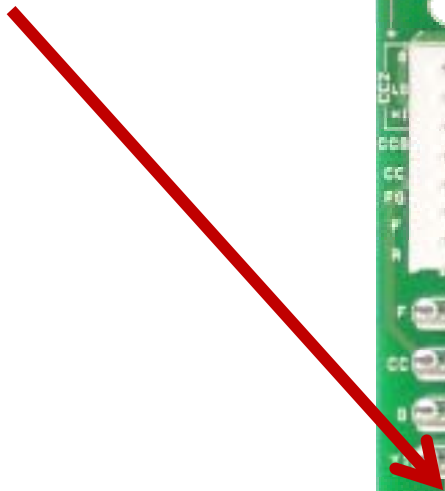
On = Standard Unit

Off = Hot Gas Reheat Enabled

When Hot Gas Reheat is enabled, the Alarm Relay is used to energize the hot gas reheat valve. So when the hot gas reheat option is ordered, no alarm relay output is available.

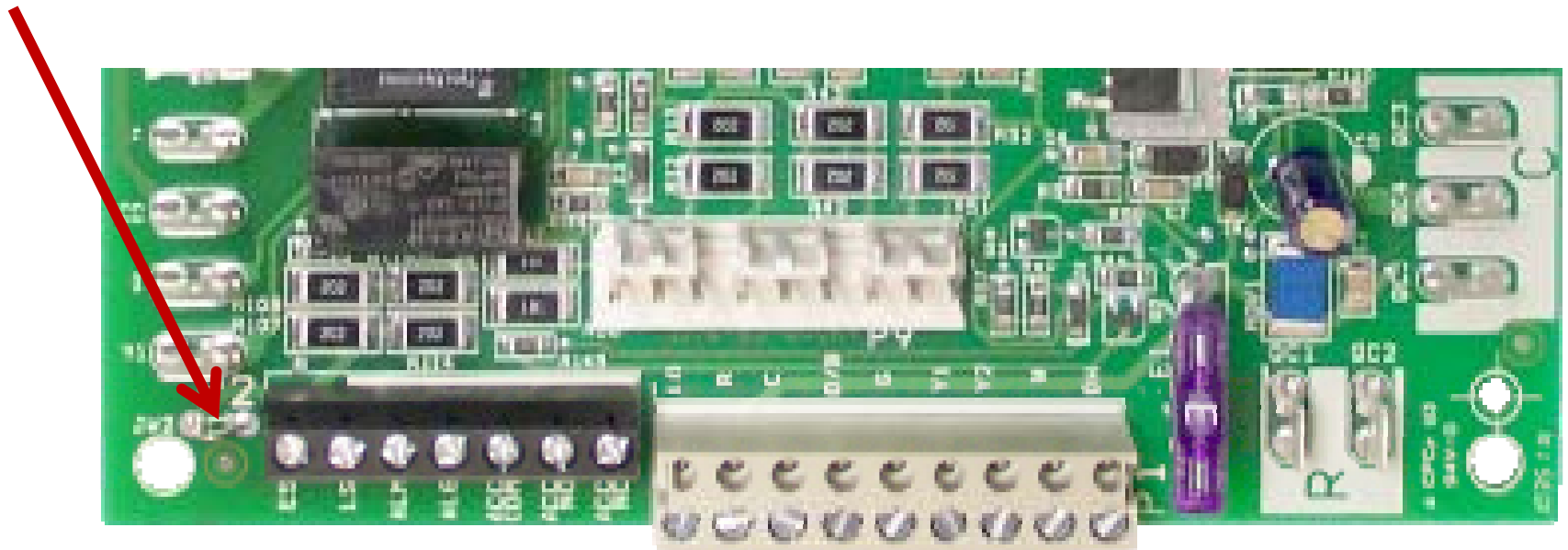
Alarm Jumper JW2

JW2
24Vac or Dry Contact
Fault Output



Alarm Jumper JW2

JW2
24Vac or Dry Contact
Fault Output



Alarm Jumper JW2

JW2 24Vac or Dry Contact Fault Output

Factory setting: JW2 Jumper Wire Intact
Fault Alarm Relay output is connected to 24VAC

Clipping the JW2 Jumper Wire:
Fault Alarm Relay Contacts will be a dry contact output