

## MODE OF OPERATION

The control will begin the 3 minute time delay upon a Y call from the thermostat. After the time delay expires; the compressor contactor will be energized as long as the high and low pressure switches are closed. If either switch is open after the delay expires; the compressor will not energize and the respective fault code is displayed. If the high pressure cutout (HPC) switch opens while the compressor is energized; the compressor will de-energize immediately and the 3 minute anti-short cycle delay begins. The low pressure cutout (LPC) switch is bypassed for the first 90 seconds of compressor run time; if the low pressure switch remains open after the 90 second delay; the compressor will de-energize and the 3 minute anti-short cycle delay begins. The compressor will not be allowed to re-energize until the anti-short cycle delay expires and both pressure switches are closed. If either pressure switch opens 3 times during the same Y call; the control will enter a hard lockout and flash the respective code.

## DEMAND DEFROST

Defrost is initiated when **ALL** of the following conditions are satisfied:

- The outdoor coil temperature is below 35°F.
- The outdoor ambient temperature is above 34°F.
- 24 VAC is applied to the Y and B terminals.
- The compressor has accumulated at least 34 minutes of runtime with the outdoor coil temperature reading below 35°F.

A defrost cycle will occur if the compressor accumulates 6 hours of runtime without a defrost cycle and an outdoor coil temperature below 35°F.

**\*\* Note:** *The compressor contactor will turn off for 30 seconds at the beginning and at the end of each defrost cycle. Cutting JW7 will permanently remove this delay.*

**Defrost Termination:** The defrost cycle will terminate either after 14 minutes or when the coil temperature is equal to the selected terminate defrost temperature.

**Test Mode:** The test pins can be used to remove the anti-short cycle delay, clear the lockout or initiate defrost.

To remove the 3 minute delay or lockout; short the TEST pins for 1 second then remove.

To initiate a manual defrost cycle; short the TEST pins twice.

To terminate the manual defrost cycle; short the TEST pins again.

## SPECIFICATIONS

### Input

- **Voltage:** 18-30 VAC, 50/60Hz
- **OAT (outdoor ambient sensor):** 10kΩ @ 77°F
- **OCT (outdoor coil sensor):** 10kΩ @ 77°F

### Output

- **CC (Compressor Contactor):** 1A, 24 VAC, Pilot Duty
- **RV (reversing valve):** 1A, 24 VAC, Pilot Duty
- **D (auxiliary heat):** 1A, 24 VAC, Pilot Duty
- **Fan (outdoor fan):** 2 FLA, 4 LRA, 120 VAC / 240 VAC

### Time Delay

- **Defrost:** Fixed at 14 minutes
- **Delay on make:** 3 minutes
- **Anti-short cycle delay:** 3 minutes
- **LPC (low pressure cutout):**
  - Bypassed during the defrost cycle
  - Bypassed for the first 90 seconds of compressor run time
  - Bypassed for 90 seconds after the defrost cycle

**Operating Temperature Range:** -22°F to 158°F (-30°C to 70°C)

**Storage Temperature Range:** -40°F to 185°F (-40°C to 85°C)

## TERMINATE DEFROST TEMPERATURE

Switch A	Switch B	Temperature
0	1	50°F
1	0	60°F
1	1	70°F (factory default)
0	0	80°F

## REPLACES

**Rheem:** 1157-100, 1157-110, 1157-120, 1157-121,  
47-102684-01, 47-102684-02, 47-102684-03,  
47-102684-04, 47-102684-08, 47-102685-02,  
47-102685-04, 47-102685-05, 47-102685-06,  
47-102685-07, 47-21517-22, DDL-122131-2RH

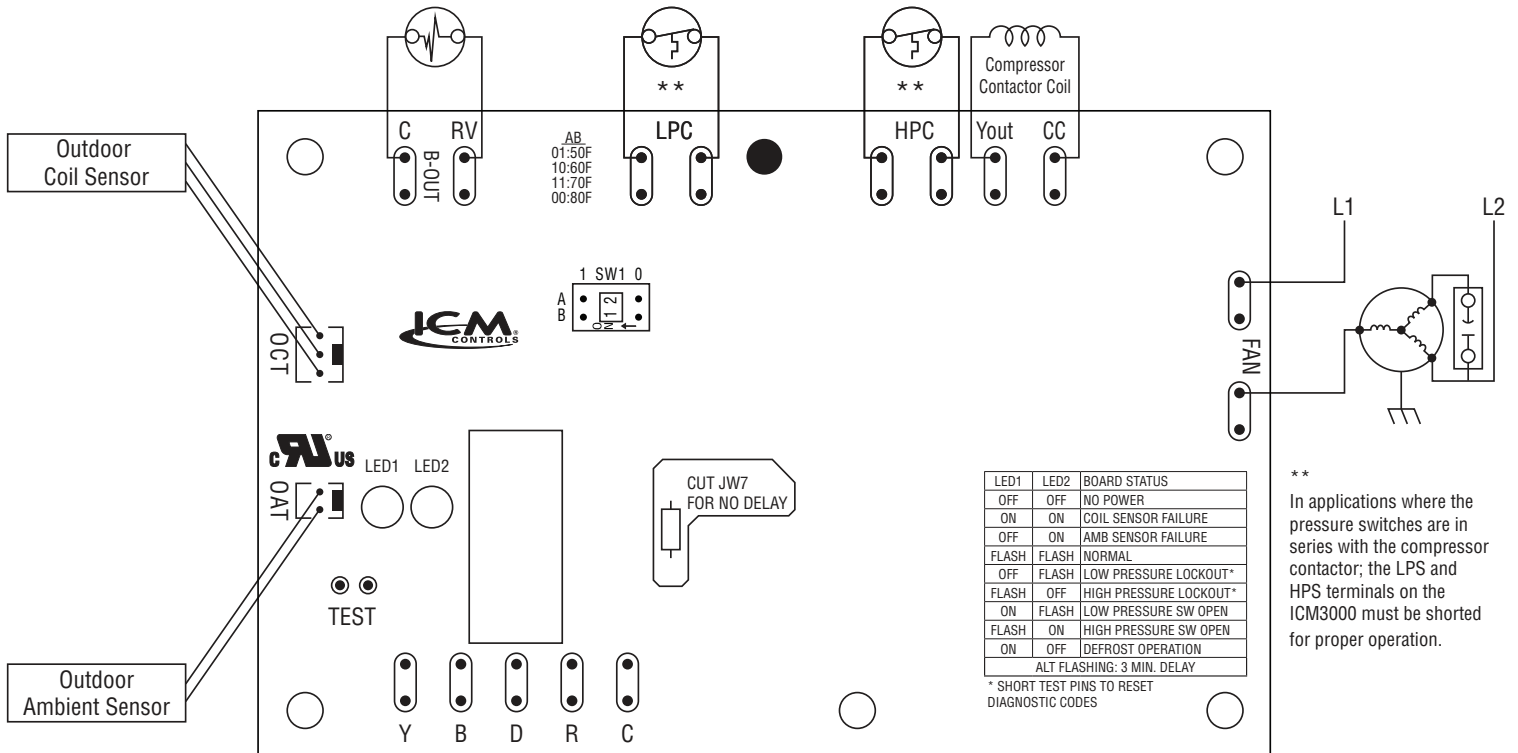
**White Rodgers:** 47D43-101-90, 47D43-111-01,  
47D43-111-02, 47D43-111-03,  
47D43-111-04, 47D43-811

## LED STATUS

LED 1	LED 2	Board Status
OFF	OFF	NO POWER
ON	ON	COIL SENSOR FAILURE
OFF	ON	AMB SENSOR FAILURE
FLASH	FLASH	NORMAL
OFF	FLASH	LOW PRESSURE LOCKOUT*
FLASH	OFF	HIGH PRESSURE LOCKOUT*
ON	FLASH	LOW PRESSURE SW OPEN
FLASH	ON	HIGH PRESSURE SW OPEN
ON	OFF	DEFROST OPERATION
ALT FLASHING: 3 MIN. DELAY		

\* Short test pins to reset diagnostic codes

## WIRING DIAGRAMS



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