

D7CPU (version 7V4) Condenser Management System

Overview.

The D7CPU Board is a complete solution for condenser management requirements and is designed to interface with LEASAM Controls and most other brands of thermostats.

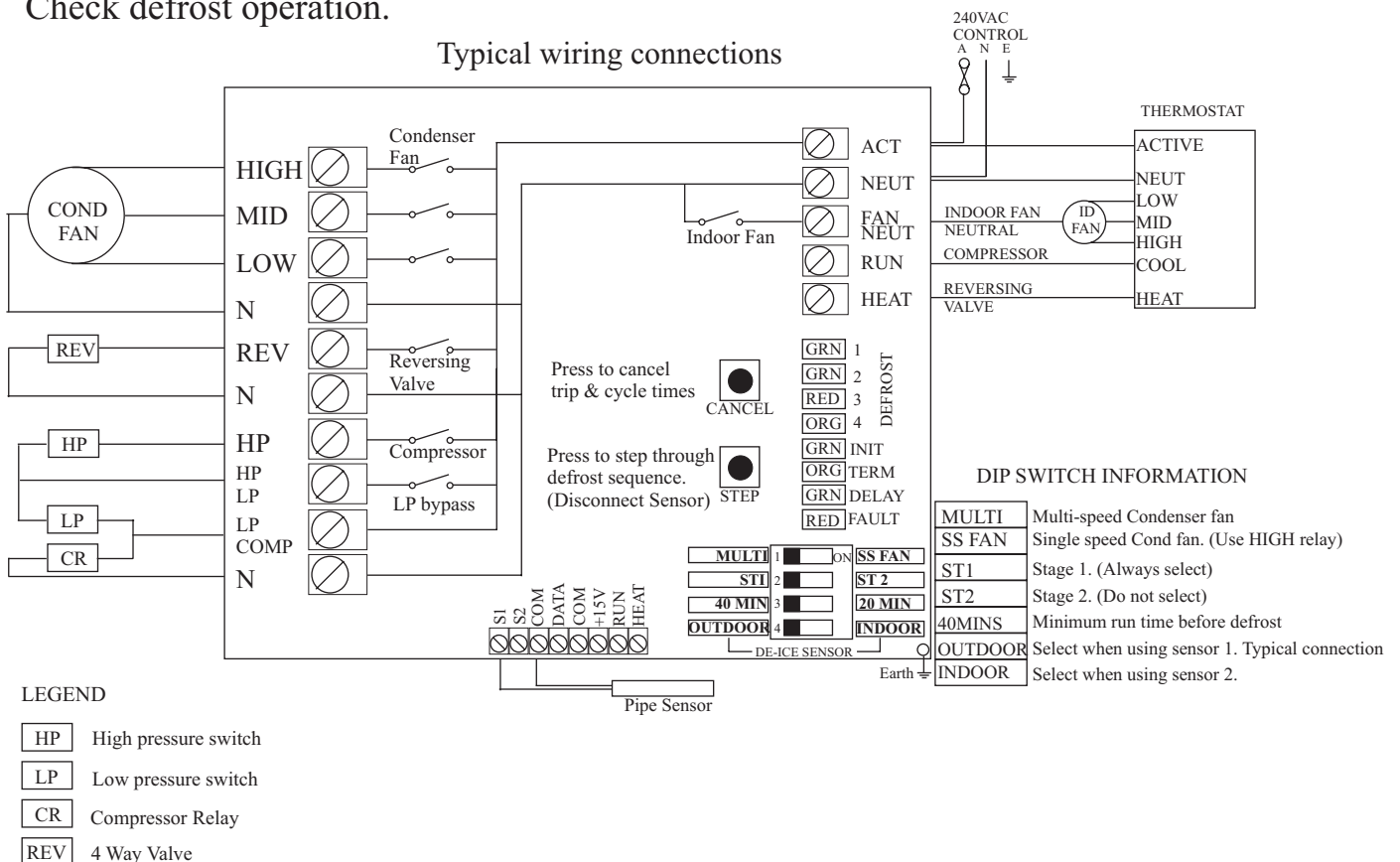
The D7CPU Board is designed to minimize wiring by providing all the connections to the HP/LP safeties, Compressor Contactor, 4 Way Valve, Condenser fan and control fuse.

Operating Features.

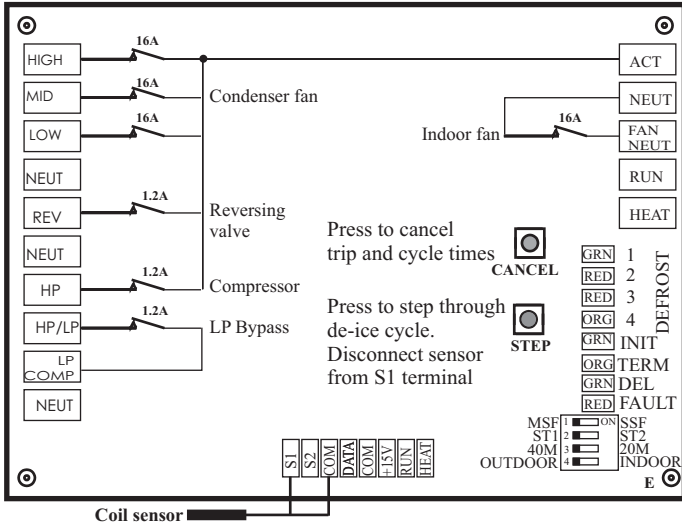
- 1 Defrost Control features.
- 2 Defrost hold off time.
- 3 Defrost confirmation time.
- 4 Defrosts on time and/or temperature.
- 5 Residual water removal from condenser coil.
- 6 Indoor coil preheat cycle.
- 7 Three speed Condenser fan control option.
- 8 Compressor Anti Cycle Timer.
- 9 High/Low Pressure safety trip protection.
- 10 System lockout on three safety trips within 45 minutes.
- 11 Low Pressure bypass on start up.
12. Random start time on mains power up.

Service Features.

1. Eight Enunciation LED's to indicate system status.
2. Two push buttons for technician.
Cancel timers.
Check defrost operation.



D7 CPU (ver 7V4) CONDENSER MANAGEMENT SYSTEM



D7 LED's	Cooling Mode	Heating Mode	Mode 1	Mode 2	Mode 3	Mode 4
1	OFF	ON	OFF	OFF	OFF	OFF
2	OFF	OFF	OFF	ON	OFF	OFF
3	OFF	OFF	OFF	OFF	ON	OFF
4	OFF	OFF	OFF	OFF	OFF	ON
*INIT	OFF	OFF	ON	ON	OFF	OFF
*TERM	OFF	OFF	ON	ON	OFF	OFF
*DELAY	OFF	OFF	OFF	OFF	OFF	OFF
*FAULT	OFF	OFF	OFF	OFF	OFF	OFF

*INIT led On. Coil temperature below -5oC.
 *TERM led On. Coil temperature below 10oC.
 *DELAY led On. 5 minute Compressor cycle delay. Press CANCEL to reset.
 *FAULT led On. Safety switch trip. 15 minute delay. Press CANCEL to reset
 *FAULT led On. Cannot reset. System locked out. Turn power Off/On.
Note: Safeties have tripped three times within 45 minutes.

SERVICE BUTTONS.

CANCEL button. Press to reset time delays, 5 minute anti-cycle delay, safety trip etc..CANCEL button will not reset system lock out. To reset system lock out turn power Off then On.

STEP button. Disconnect S1. Press and release to step through defrost cycle.

Operating Modes and Information.

Cooling Call. D7 Led's off.

On start-up Low Pressure control detected for 4 seconds and then bypassed for 5 minutes.

Heating Call.

On start-up Low Pressure control detected for 4 seconds and then bypassed for 5 minutes. Compressor in minimum run time of 40 minutes or 20 minutes. Dip Switch selectable.

De-ice sequence.

Mode 1. Minimum compressor run time complete.

Mode 2. Compressor must run continuously for 5 minutes at or below -5.0oC.

Mode 3. De-ice cycle.

Reversing valve, outdoor fan and indoor fan de-energized. Compressor stays on. Deice cycle complete when outdoor coil temperature reaches 10oC or 10 minutes has elapsed.

Mode 4. De-water cycle.

Outdoor fan runs on high for 60 seconds to remove residual water from coil.

Mode 5. Pre-heat cycle.

Reversing valve and outdoor fan energized. Indoor fan held off for 15-65 seconds, dependent on duration of deice cycle i.e 0-10 minutes. System returns to normal operation.

Compressor Operating Information

Random start delay on initial power up. 20 to 146 seconds.
 3 minute anti-cycle delay.
 5 minute delay between heat and cool (except during de-ice)

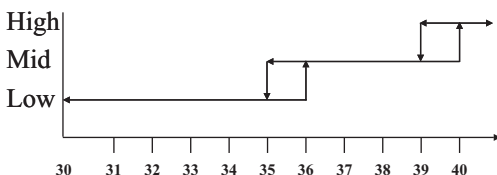
Sensors Information

Sensor 1 only. Control outdoor fan and (de-ice cycle if Sensor 2 not used).
 Sensor 2. Dip switched to Outdoor. De-ice cycle.
 Sensor 2. Dip switched to Indoor. Stops compressor at -5oC. Restarts at +5oC.

Outdoor Fan Operating Information

Fan starts in high speed for 4 seconds.

Outdoor Fan Speed Control in cooling cycle. Detected from Sensor 1



Outdoor Fan Speed Control in heating cycle. Detected from Sensor 1

