

## GENERAL INSTRUCTION

- When the **Up** and **Down** buttons are solidly lit, the system is ON and in automatic mode. When both **Up** and **Down** are flashing once every second, the system is in comfort mode.
- The **Up** button flashing once every 2 seconds indicates HVAC 1 Alarm. The **Down** button flashing once every 2 seconds indicates HVAC 2 Alarm.
- You may always press **Up** and **Down** together to reach the default display (indoor temperature reading).
- For all 2-key combinations (e.g. **Up** and **Down** together), put a thumb in-between the two keys and press simultaneously.
- From the default display, use **Up** or **Down** to scroll through the Main Menu.
- Use the comfort mode (C D F) in the main menu to temporarily change the temperature control (default 72F for 1 hr). Avoid changing the main setpoint for comfort.
- A "flashing" parameter indicates that parameter can be changed by user (e.g. temperature setpoint). Press **Sel** to display the current setting. To change the setting, use the **Up** or **Down** button. Press **Sel** again to confirm.
- A "Solid" parameter is read only (e.g. current humidity sensor reading). Press **Sel** to display the current reading. Press **Sel** again to return.
- Factory settings are passcode protected and are given to professional HVAC technicians. Contact HVAC Support (805) 879-5432 / (855) 874-5380 for additional information.

## SYSTEM STEP TEST

Step Test is used to test all major functions of the system. This includes fan, heater, compressor, and outside damper.

Step test does not need to be performed in order and will stop after no input from operator for 10min.

- From the default display, press and hold **Up** and **Sel** together and 3 Seconds.
- If the system was in automatic mode, the screen will display S F t. Press **Up** from S F t to reach C D d. Otherwise the screen will display C D d directly.
- From C D d, press **Sel** will display the current step. Use **Up** or **Down** to change the step and press Sel again to confirm. Once confirmed, the screen will revert to C D d and selected step will start.

Step	Description	Notes
1	Supply Fan	Full speed after few seconds
2	Heater	May take up to 1min to feel warm air
3	Compressor	Must run a <b>minimum</b> of 1min
4	Outdoor Damper	When lights are off, indirect daylight can be seen via opening behind exhaust grill
5-8	Repeats for 2nd Unit	Same as 1-4

**Important:** Step Test takes the system out of automatic mode. Always turn the system back to ON at main menu after the Step Test:

Press **Up** and **Down** together to reach the default display. Press **Down** to find OFF. Press and hold **Sel** for 3 seconds to turn system back On.

## ALARMS

- When the **Sel** button is lit (red), it means there is an active alarm or a new entry in the alarm history.
- To acknowledge the alarm, reach the default display and press **Sel**.
  - If there is an active alarm, the first active alarm code will be displayed. Press **Up** to view any other active alarm.
  - If alarm is no longer active, the **Sel** button will become unlit after acknowledging the alarm.
- Use alarm history in the C Menu to view detail on historical alarms that are no longer active.

Code	Level	Description	Output Delay
A02	Major	Unit 1 Low Pressure	60/10s
A03	Major	Unit 1 High Pressure	2s
A04	Major	Unit 2 Low Pressure	60/10s
A05	Critical	Smoke/Fire Alarm	None
A06	Major	Unit 2 High Pressure	2s
A07	Critical	High Temperature	300s
A08	Minor	Low Temperature	300s
A09	Minor	DC Failover Mode	40s
A10	Major	Unit 1 AC Loss/ Evap. Fan O.L. (AC Fan Sys. Only)	0s
A11	Major	Unit 2 AC Loss/ Evap. Fan O.L. (AC Fan Sys. Only)	0s
A15	Minor	Unit 1 Dirty Air Filter	10s
A16	Minor	Unit 2 Dirty Air Filter	10s
A17	Minor	Unit 1-2 Communication. (Through pLAN on J6)	30s
A18	Minor	Clock Card Alarm	60s
A19	Minor	Humidity Alarm	60s
A20	Minor	Indoor Temperature Sensor	60s
A21	Minor	Backup Indoor Temperature Sensor	60s
A22	Minor	Outdoor Temperature Sensor	60s
A23	Info	2nd Compressor Run	5s
A24	Minor	Unit 1 Damper Failure	60m
A25	Minor	Unit 2 Damper Failure	60m
A26	Minor	Unit 1 Supply Air Temperature Sensor	60s
A27	Minor	Unit 2 Supply Air Temperature Sensor	60s
A28	Info	Generator Run	5s
A29	Major	Unit 1 DC Loss/ Air flow (DC Fan Sys. Only)	30s
A30	Major	Unit 2 DC Loss/ Air flow (DC Fan Sys. Only)	30s
A31	Major	Unit 1 AC Loss (DC Fan Sys. Only)	30s
A32	Major	Unit 2 AC Loss (DC Fan Sys. Only)	30s

## ALARMS HISTORY

The controller stores up to 200 alarms in history along with its code, sequence, and time. Follow these instruction to access the alarm history:

- From default display, press **Up** to find S P t. Then press **Sel** to enter the C Menu.
- Press **Up** to find R L n and Press **Sel**. The most recent alarm code will be displayed. Use the **Up** button to scroll to the next most recent alarm.
- At any alarm code display, press **Sel** to view Alarm Detail (refer to the table on the right). When finished viewing detail, press **Up** and **Down** together to return to alarm code.

## ALARMS HISTORY DETAIL

When an alarm detail parameter is displayed (e.g. n1C – year of alarm), press **Sel** to view record. Press **Sel** again to return.

Display	Description
n 1 P	Sequence (15 = 15th Alarm in History)
n 1 C	Year of the alarm
n 1 L	Month of the alarm
n 1 E	Day of the alarm
n 1 F	Hour of the alarm
n 2 D	Minute of the alarm

Note: Alarm time may not be accurate if System Time is not set correctly. System Time can be Verified in C Menu: N15 = hour, N16 = minute, N17 = year, N18 = month, N19 = day.

## PROGRAM MENUS

Note: Only select parameters are shown. Consult the manual for a complete list of parameters.

### MAIN MENU

Display	Description
7 7 . 3	Default Display: current indoor temperature; Press UP and DOWN together to reach this display
D F F	ON/OFF. Press and hold Sel for 3 seconds to change
C D F	Comfort mode: ON/OFF. Will revert to normal operation after comfort mode run time
C F t	Comfort mode run time. Default: 1 Hr
S P t	Comfort mode indoor temperature Setpoint. Default: 72F
H u	Indoor humidity (%)
E t	External temperature
S U	Unit 1 Supply air temperature
S U 2	Unit 2 Supply air temperature
S P t	System Settings. Press Sel to enter C Menu. Press Up and Sel together to enter D Menu. Press Down and Sel Together to enter E Menu or L Menu (password protected).

### C Menu

Display	Description
S t P	Main Temperature Setpoint. Default: 77F
r o t	Lead/lag rotation. Change to YES to immediately rotate once
r t 2	Room Temp. 2: display backup room temp reading
d S 2	Unit 1 Compressor Status: ON/OFF
d S 3	Unit 1 Heater Status: ON/OFF
d S 4	Unit 1 Free Cooling Status: ON/OFF
d S R	Generator Input Status: ON/OFF. Must match actual generator running status if generator signal used
d S 7	Unit 2 Compressor Status: ON/OFF
d S 8	Unit 2 Heater Status: ON/OFF
d S 9	Unit 2 Free Cooling Status: ON/OFF
U E 1	First part of software revision number
U E 2	Second part of software revision number
R L n	Alarm history. See Alarm History section for detail.

### D Menu

Display	Description
S F t	Smoke/Fire Input. Default: N.C.
d G t	(Diesel) Generator Input. Default: N.O.
C S t	Compressor delay on make. Default: 180s
E 2 C	Enable lag compressor during Generator on. Default: No

### E Menu

Display	Description
H t	Temp. difference for High temp. alarm. Default: Setpoint +18F
L t	Temp. difference for Low temp. alarm. Default: Setpoint -32F
C D 2	Lead compressor turn on point. Default: Setpoint + 2F
H D 2	Lead heater turn on point. Default: Setpoint - 27F
C R d	Controller address: 1/2. Must match with the controller that the LED is attached to.
S P S	Number of units in system. Default: 2. Disconnect pLAN on J6 for single unit configuration
d E F	Reset controller to factory default. Note: Does not reset controller address, alarm history, and system time.

### L Menu

Display	Description
L04	Indoor humidity limit. Outdoor damper will be shut when this limit is reached. Default: 85%.
U 0 4	Minimum temperature difference between indoor and outdoor to allow free cooling. Default: 3.6F
U 5 4	Minimum supply air temperature for free cooling. When outdoor temp is very low, damper will adjust to provide mixed air temperature above this limit. Default: 51.8F.
L05	
F 0 3	Allow free cooling. Default: Yes
F 0 4	Allow free cooling and compressor to work simultaneously. Default: Yes.
F 0 5	Only allow free cooling during emergency ventilation mode. Default: No.
F 1 6	Minimum supply fan speed (0-10V). Default 0.1V. Change to 5V will achieve continuous circulation at half speed. Note: Supply fan does not run between 0-2V.
F 3 P	Temperature unit. Default: F.
F 3 2	Automatic rotation period in hours. Default: 168 hr
F 3 6	Lag heater turn on. Default: Setpoint -27F
F 3 8	Lag compressor turn on. Default: Setpoint +7.4F
F 3 R	Reset Alarm History. Change to Yes will immediately wipe alarm history. Caution: not reversible.

