

Commercial ERV Units with Commercial Controls

Start-up Guide

To insure the quality of the installation and the proper operation of this unit, the following Start-Up routines should be completed. Please follow the procedures and recommendations identified in this report and record start-up information in the specified areas. If a problem with the unit becomes apparent, correct the problem by referring to the installation manual or contact the Factory Representative for further assistance. Please verify the accuracy of all model and serial number information before contacting the manufacturer.

JOB NAME:	TAG:	DATE:
MODEL NO:	SERIAL NO:	
CONTRACTOR:	TESTED BY:	

This unit should be started up for a brief period immediately after high and low-voltage wiring are complete. The purpose of the initial start-up is only to verify correct fan rotation direction and that the dampers are opening and closing properly. After the unit has been run for a brief period, it is to be shut back down until the entire installation is complete. **The unit is not to be used for building ventilation before the building has been completed.**

PRIOR TO UNIT START-UP:

⚠ WARNING

Installation of unit and electrical wiring must be done by a qualified professional(s) in accordance with all applicable codes, standards and licensing requirements. Before servicing or cleaning the unit, switch power "off" at the disconnect switch or building service panel and lock-out/tag-out to prevent power from being accidentally turned on. This unit must be grounded as per instructions.

- ☐ The unit must be in its final location.
- ☐ Verify all prefilters are in place and on the correct airstreams (i.e. inlet face of core exhaust and the inlet face of the core supply) if previously removed.
- ☐ High-voltage supply wiring must be complete.
- ☐ All low-voltage wiring, including field-installed sensors, must be completed.
- ☐ All debris or construction materials must be removed from the unit.
- ☐ All doors and access panels must be in place.
- ☐ Initial start-up should not be performed if the air is laden with construction dust. Filters will quickly become dirty and require changing for other subsequent testing.
- ☐ If this unit was purchased with a Remote User Terminal (RUT) for the controller, connect the RUT and perform start-up steps with the RUT. If there is no RUT, perform the start-up steps by using the buttons on the Integrated Programmable Controller or the internal web pages.
- ☐ Make sure all power to the unit is "off" and all disconnects are in the "off" position before making final power connections
- ☐ **FOR INDOOR UNITS:** Confirm that the supply and exhaust vent connections have been properly connected and the penetration points have been separated by a minimum of 10', are free of obstructions, and are screened and properly terminated as per directions. Inspect the OA and EA vent pipes to confirm that they are pitched ¼" per foot away from the unit and insulated with vapor barrier insulation.
- ☐ **FOR ROOF TOP UNITS:** Inspect and confirm that all ductwork has been connected and sealed as per installation instructions.
- ☐ Confirm circuit breaker amperage does not exceed the MOP on the nameplate and verify the unit is wired with the correct line voltage.
- ☐ Set sheaves using unit ratings table and job design requirements. Check the belts for proper tension and pulley alignment if an adjustment has been made. (Belt drive units only).
- ☐ Spin each blower wheel to assure they are not rubbing and are in alignment in the blower housing.
- ☐ Check all set screws and fasteners on blowers, bearings, sheaves, and drives (if adjustments have been made) to assure tightness.

⚠ CAUTION

RISK OF ELECTRIC SHOCK OR EQUIPMENT DAMAGE

Whenever electrical wiring is connected, disconnected or changed, the power supply to the unit and its controls must be disconnected. Lock and tag the disconnect switch or circuit breaker to prevent accidental reconnection of electric power.

⚠ CAUTION

RISK OF CONTACT WITH HIGH-SPEED MOVING PARTS.

Disconnect all local and remote power supplies, verify with a voltmeter that electric power is off and all fan blades have stopped rotating before working on the unit.

Do not operate this unit with any cabinet panels removed.

⚠ WARNING**ARC FLASH AND ELECTRIC SHOCK HAZARD**

All RenewAire models operate on high voltages that can cause severe electric shock. Some models use high voltages that are capable of causing dangerous arc flash. Whenever accessing any part or component of the unit, disconnect all electric power supplies, verify with a voltmeter that electric power is OFF and wear protective equipment per NFPA 70E when working within the electric enclosure. Failure to comply can cause serious injury or death.


The unit disconnect switch contain live high-voltage.

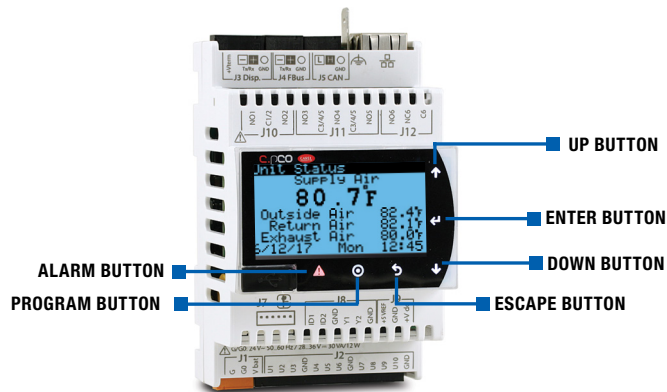
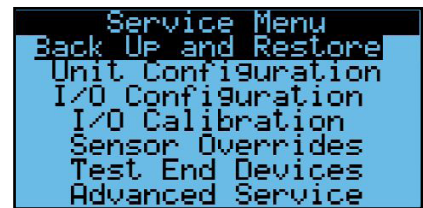
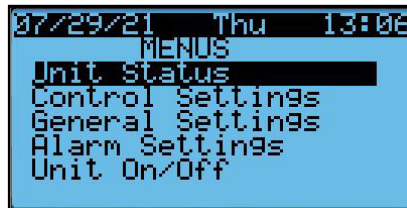
The only way to ensure that there is NO voltage inside the unit is to install and open a remote disconnect switch and verify that power is off with a voltmeter. Refer to unit electrical schematic.

Follow all local codes.

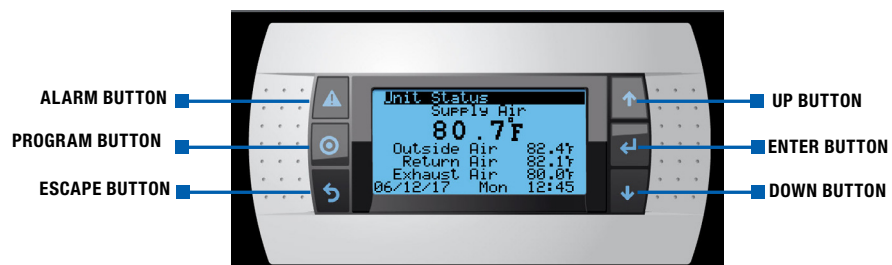
CONTROL MENU STRUCTURE

- Each screen has a bar at the top to show within which set of menus it resides.
- Access the Main Menus by pressing the Escape button.
- Access the Service Menus by pressing the Program Button and entering the password 1000.

 **NOTE:** For more information regarding setpoints and unit configurations, see the *Commercial Controls User Manual* furnished with the unit.



INTEGRATED PROGRAMMABLE CONTROLLER



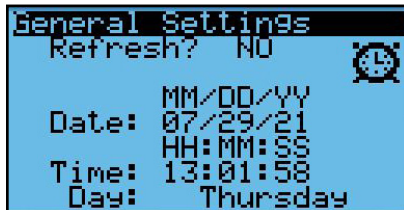
OPTIONAL REMOTE USER TERMINAL (RUT)

- Pressing Up and Down when the cursor is in the upper left-hand corner will move you from screen to screen.
- Pressing Enter on a screen will move from field to field and Up and Down on another field will change the value.

SET THE TIME AND UNIT OF MEASURE

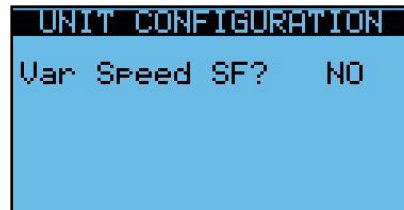
The controller needs the correct time and date for alarm stamps, etc.

The unit of measure setting will determine the values that show on the display.



CONFIRM THE CONFIGURATION

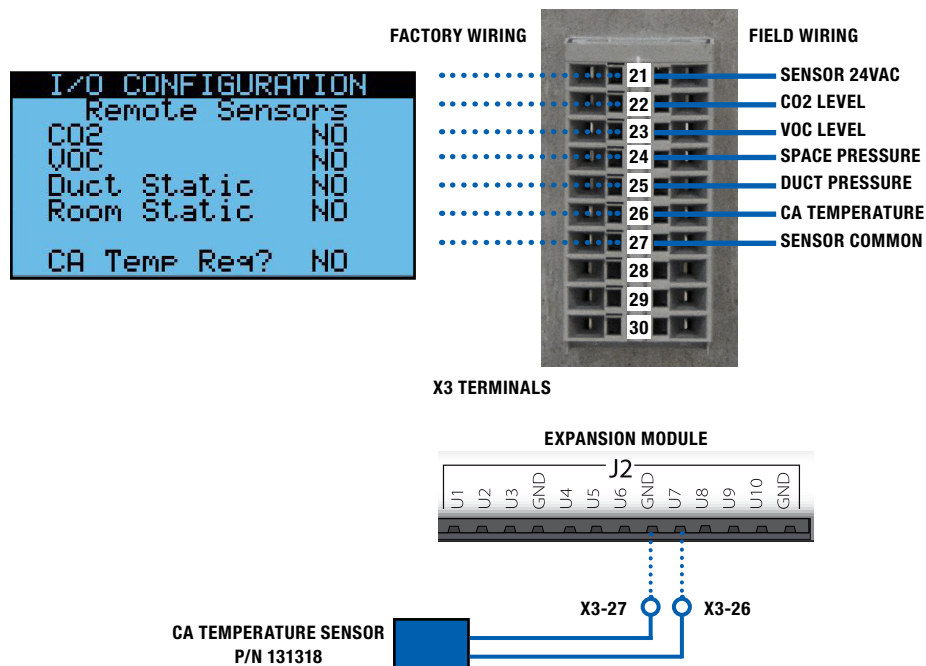
Using these two screens, confirm that the unit has the correct configuration. Heating and cooling are available with premium controls only.

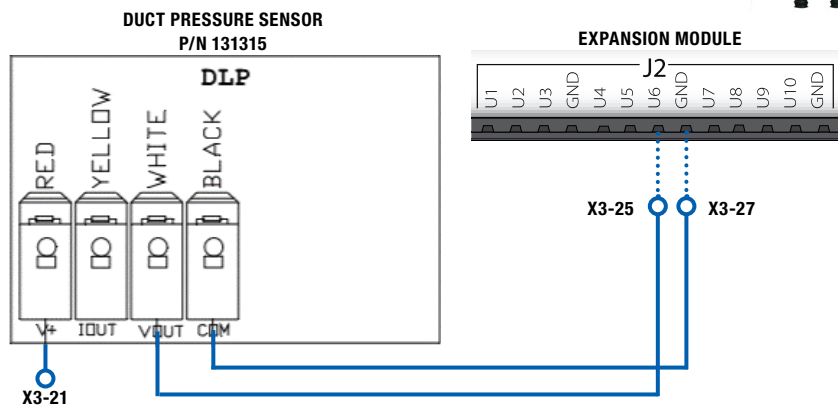
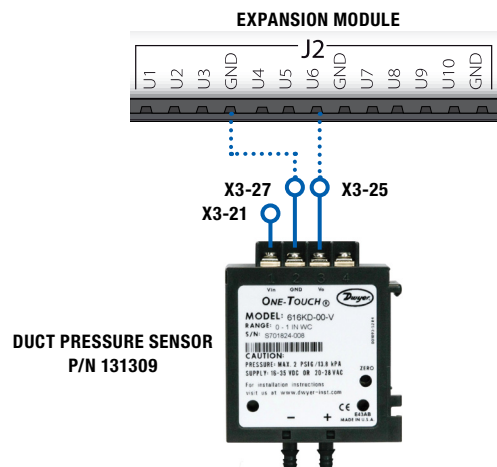
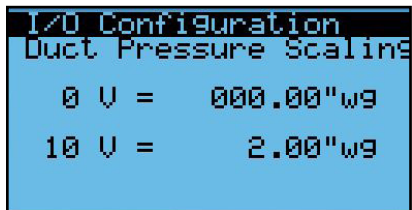
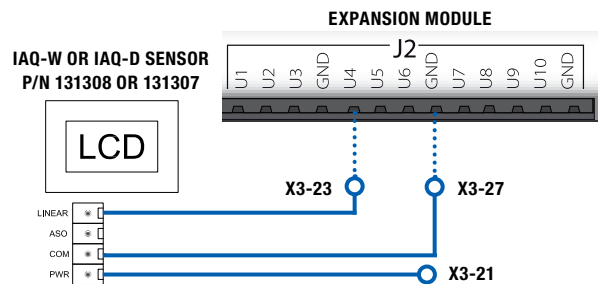
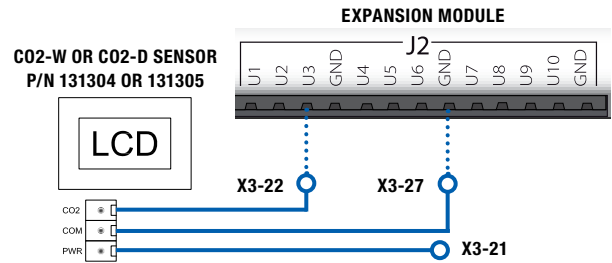
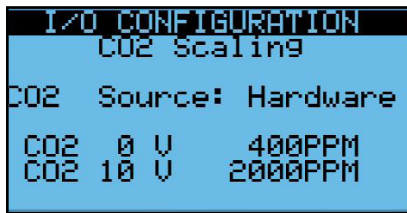


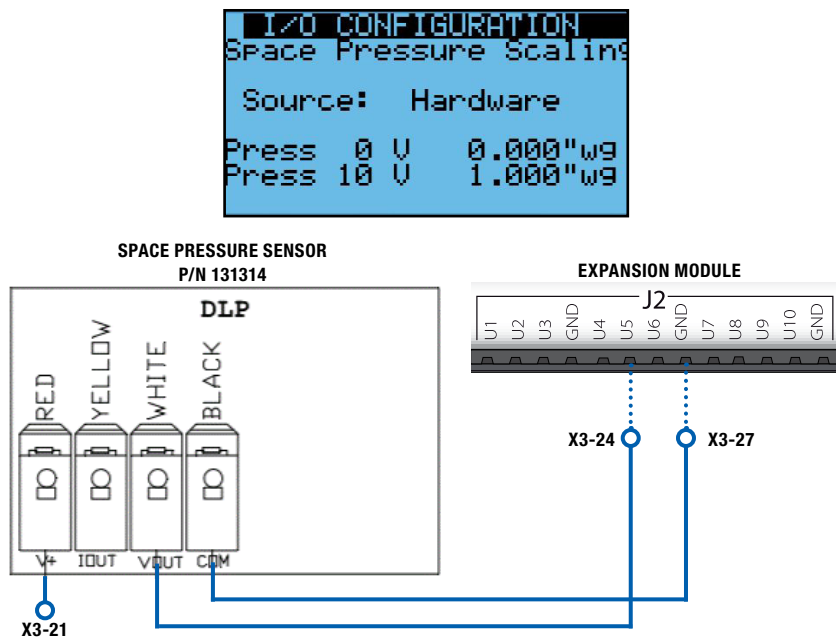
ADD ANY REQUIRED SENSORS

If using premium controls and require the ability to control airflow based on CO₂, VOC, Duct Static, or room static, the sensor must be enabled here and installed on the unit. Any scaling can be adjusted in the screens following, if needed.

If using premium controls for heating and/or cooling, the supply air temperature sensor must be enabled and installed.



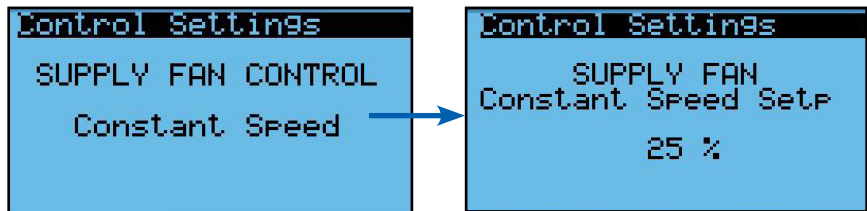




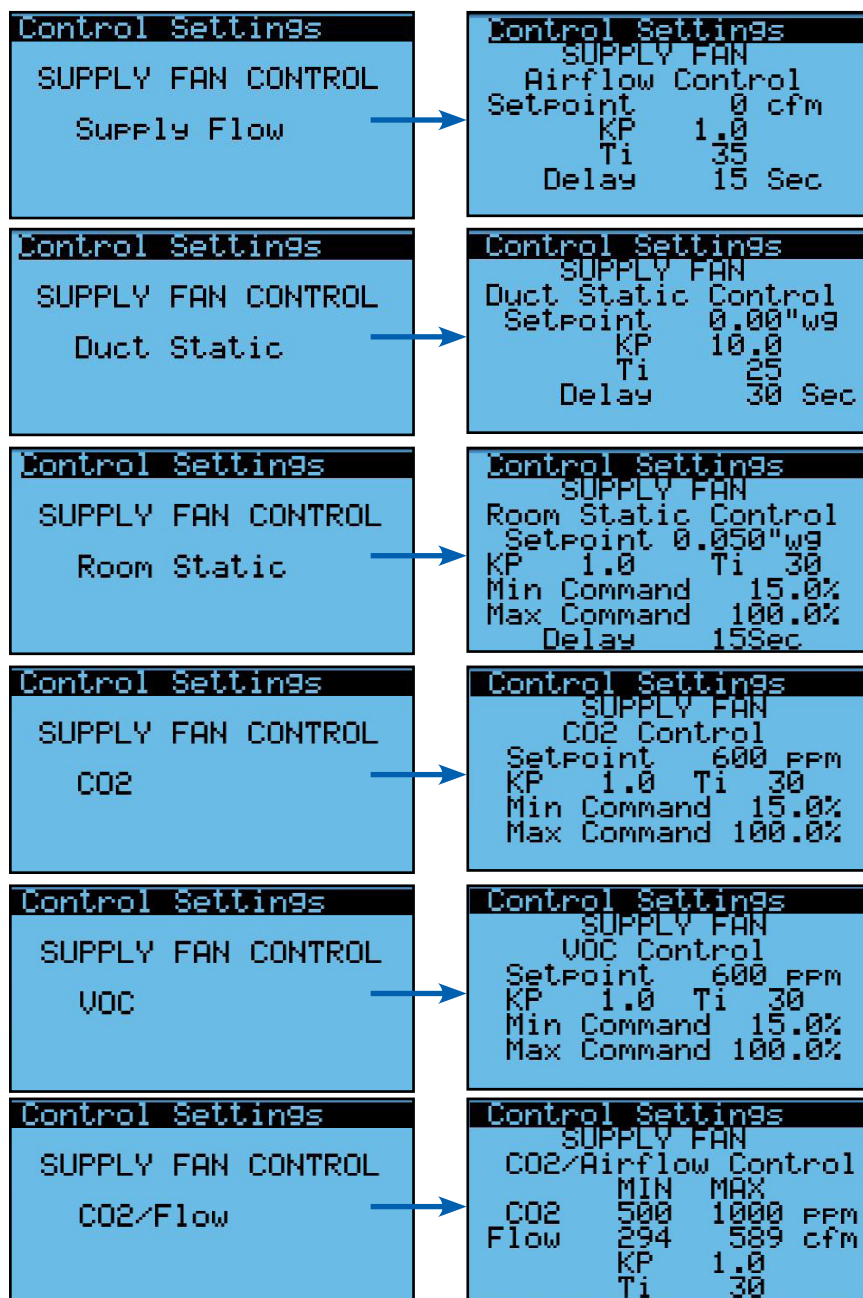
CONFIGURE AIRFLOW FOR SUPPLY AND RETURN FANS

If using enhanced controls and variable speed fans, you will be allowed to set the variable speed fans to a specific fan speed as a percentage.

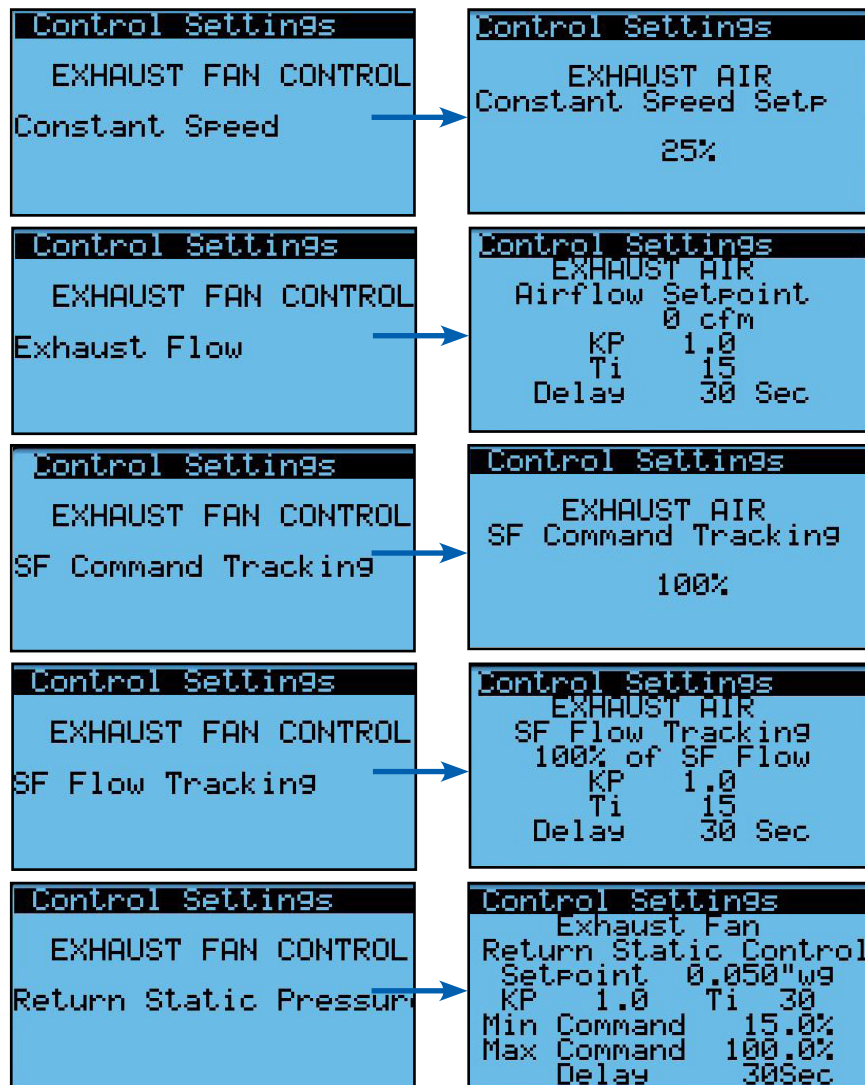
If using premium controls with variable speed fans you will have these additional options. Choose your type and set the corresponding settings for that type.



NOTE: FOR AIRFLOW CONTROL WITH VFDS YOU MAY NEED TO SET THE KP VALUES AS LOW AS 0.1 TO PREVENT HUNTING.



Repeat for exhaust fan.

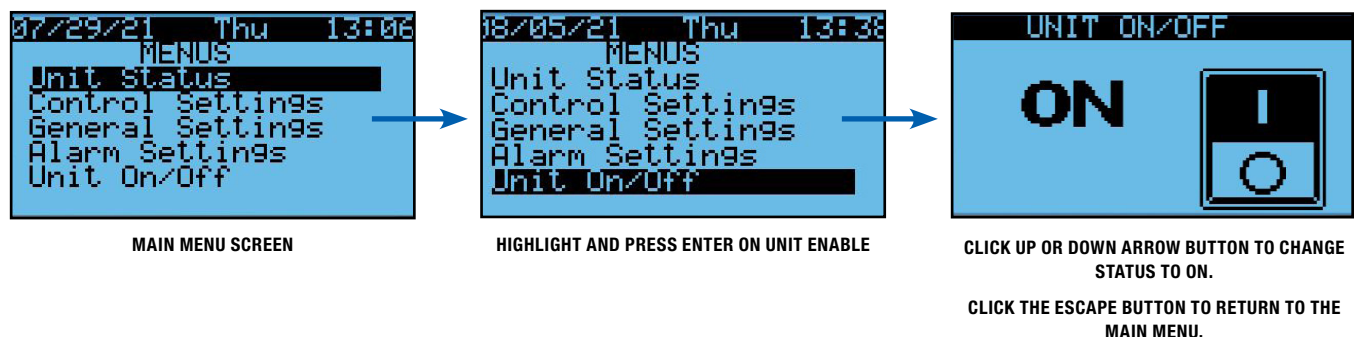


UNIT START-UP:

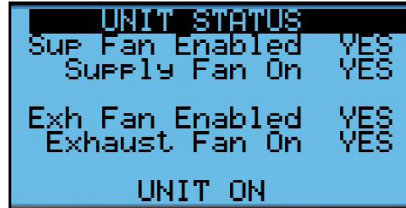
Start the unit through the keypad. The digital input ID1 (terminals 17–18) has to be closed. *See the images on the below.*

The unit is now powered up and the dampers should begin moving. Once the dampers are in their programmed positions, the fans will begin to run.

- Verify that fans are turning the correct direction and that dampers are functioning. If fan rotation is reversed, change any two of the three-phase high-voltage supply wires to the motor.



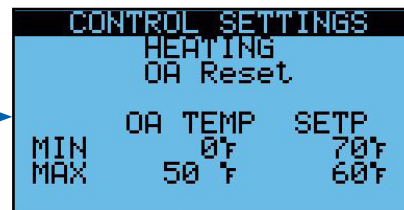
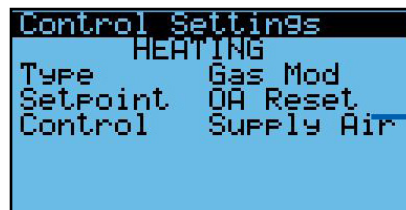
Observe this status screen for status of fans and unit. All four answers should be “YES” and the Unit should show UNIT ON. If the Fan On is NO when the fans are running the current switch for that fan needs to be adjusted.



- ❑ Shut down the unit by switching UNIT ON/OFF back to OFF and turning the disconnect switch to OFF.
- ❑ **SECURE ALL PANELS AND DOORS TO PREVENT ACCIDENTAL ACCESS TO LIVE HIGH-VOLTAGE OR TO THE FANS.**

SET THE HEATING SETTINGS

- Confirm that the correct heating type is set. Make sure the connections are physically in place.
- Choose to control to the heating setpoint or to a reset schedule with outdoor air.
- Choose between control off supply or return air.
- Be sure to make sure the outdoor air lockout temperature is below the current outdoor temperature.
- Depending upon the heating type, set the appropriate setting. Refer to the appropriate manual to proceed for heating checkout.



ENGINEERED DESIGN CONDITIONS			ACTUAL PERFORMANCE CONDITIONS		
EXHAUST (RA) CFM	E.S.P.	BLOWER R.P.M.	EXHAUST (RA) CFM	E.S.P.	BLOWER R.P.M.
SUPPLY (FA) CFM	E.S.P.	BLOWER R.P.M.	SUPPLY (FA) CFM	E.S.P.	BLOWER R.P.M.
MCA (MIN CIR. AMPS)		MFS (MAX FUSE SIZE)	MOTOR AMPS (OA)		MOTOR AMPS (EA)
UNIT VOLTAGE:			LINE VOLTAGE L1-L2 L2-L3 L3-L1		