



⚠ CAUTION!

TRUBLESHOOTING SHOULD BE PERFORMED BY A QUALIFIED HVAC TECHNICIAN.

Symptom	Possible Reason	Troubleshooting Procedure
Neither fan nor compressor running. Dehumidification is being called for.	<ol style="list-style-type: none"> Dehumidifier unplugged or no power to outlet. Humidity control set too high. Loose or shorted connection in internal or control wiring. Defective control board. Defective control transformer. 	<p>⚠ WARNING! ELECTRICAL SHOCK HAZARD: Electrical power must be present to perform some tests. These tests should be performed by a qualified service person.</p> <p>Troubleshooting Procedure for Control Related Issues This method of diagnosis will test the 3 main components of the control circuit individually to indicate any potential problems. This is to be used when the control will not activate the main unit.</p> <ol style="list-style-type: none"> Detach field control wiring connections from the terminals on the main unit. Connect the 24V and FAN terminals together; only the fan should run. Disconnect the terminals. Connect the 24V and DEHU terminals together; fan and compressor should run. Disconnect the terminals. If this test works, the main unit is working correctly from a control standpoint. Reconnect field control wiring to the terminals on the main unit. Remove the control panel cover and detach the field wiring from the control connections. Connect the 24V and FAN terminals together; only the fan should run. Disconnect the terminals. Connect the 24V and DEHU terminals together; fan and compressor should run. Disconnect the terminals. If this test works, then the field control wiring is ok. If the problem persists, then the control is most likely faulty.
Compressor is not running. Dehumidification is being called for. Fan is running.	<ol style="list-style-type: none"> Defective compressor run capacitor. Loose connection in compressor circuit. High Pressure switch loose or defective. Defective compressor. 	
Compressor cycles on and off. Dehumidification is being called for.	<ol style="list-style-type: none"> Low ambient temperature and/or humidity causing unit to cycle through defrost mode. Defective compressor run capacitor. Defective compressor. Defrost thermostat defective. Dirty air filter(s) or air flow restricted. Defective fan or relay. 	
Fan is not running. Dehumidification or fan is being called for.	<ol style="list-style-type: none"> Loose connection in fan circuit. Obstruction prevents fan impeller rotation. Defective fan. Defective control board. 	



⚠ CAUTION!

TRUBLESHOOTING SHOULD BE PERFORMED BY A QUALIFIED HVAC TECHNICIAN.

Symptom	Possible Reason	Troubleshooting Procedure
Low dehumidification capacity (evaporator is frosted continuously). Dehumidification is being called for.	<ol style="list-style-type: none"> Defrost thermostat loose or defective. Low refrigerant charge. Dirty air filter(s) or air flow restricted. Excessively restrictive ducting connected to unit. Stuck on compressor relay. 	<p>WARNING! ELECTRICAL SHOCK HAZARD: Electrical power must be present to perform some tests. These tests should be performed by a qualified service person.</p> <p>Troubleshooting Procedure for Control Related Issues This method of diagnosis is used to function check the internal components in the dehumidifier. This is to be used when a performance issue is suspected.</p> <ol style="list-style-type: none"> Set the humidity controller all the way to the most humid setting or off position – Did the unit shut off? If yes, turn the fan setting to the ON position – does the fan start? If fan starts, leave in the fan ON position and set the humidity all the way to driest setting. May have to wait 5 minutes for the compressor to start. Listen for a distinct buzzing/humming sound of a compressor starting up – do you hear this noise? If compressor is running and continues to run, after about 15 minutes you should feel a slight increase in air temperature being discharged out of the discharge air side of the unit. If so, depending on your environmental conditions (temp/Rh%), you should see some water production out of the hose within 30 minutes or so. (Note: If the room temperature is 55 degrees or below and/or in area of low relative humidity, the dehumidifier will produce little to no water.) Collecting the water removed in a 24 hour period will give a measurement of performance.
No ventilation. Ventilation is being called for.	<ol style="list-style-type: none"> Loose connection in ventilation control circuit. Loose connection in damper power circuit. Defective outdoor air damper. 	
Dehumidifier removes some water, but not as much as expected.	<ol style="list-style-type: none"> Air temperature and/or humidity have dropped. Humidity meter and or thermometer used are out of calibration. Unit has entered defrost cycle. Dirty air filter(s) or air flow is restricted. Defective defrost thermostat. Low refrigerant charge. Air leak such as loose cover or ducting leaks. Restrictive ducting. 	



Refrigerant Charging

WARNING!

SERVICING THE SANTA FE ULTRA V155 WITH ITS HIGH PRESSURE REFRIGERANT SYSTEM AND HIGH VOLTAGE CIRCUITRY PRESENTS A HEALTH HAZARD WHICH COULD RESULT IN DEATH, SERIOUS BODILY INJURY, AND/OR PROPERTY DAMAGE. SERVICE MUST BE PERFORMED BY A QUALIFIED SERVICE TECHNICIAN.

If the refrigerant charge is lost due to service or a leak, the leak should be repaired and a new charge must be accurately weighed in. If any of the old charge is left in the system, it must be recovered before weighing in the new charge. Refer to the unit nameplate for the correct charge weight and refrigerant type.

Error Codes

This unit is capable of detecting critical errors within the system and displaying them on the interface. If the unit has a critical error the FAN ON and FAN AUTO lights will be blinking along with other lights to indicate the error. The total number of flashing lights indicate the error number in the table below:

Critical Error #	POWER	40	45	50	55	60	EXT	RS	ON	AUTO	Description
3	●	★	○	○	○	○	○	○	★	★	Out of refrigerant
4	●	★	★	○	○	○	○	○	★	★	Float switch tripped
8	●	★	★	★	★	★	★	○	★	★	Comm Error
9	●	★	★	★	★	★	★	★	★	★	High pressure cut-out

● = On, not blinking ★ = Blinking ○ = Off

Function Check

During routine maintenance it is sometimes necessary to force the unit to operate without dew point or temperature cut offs to ensure the unit is working properly. To activate this mode, press and hold the FAN and POWER button together for 3 seconds. The RH setpoint lights will cycle back and forth when activated.

IMPORTANT!

THE UNIT MUST BE RETURNED TO NORMAL OPERATION BY QUICKLY PRESSING THE FAN BUTTON.

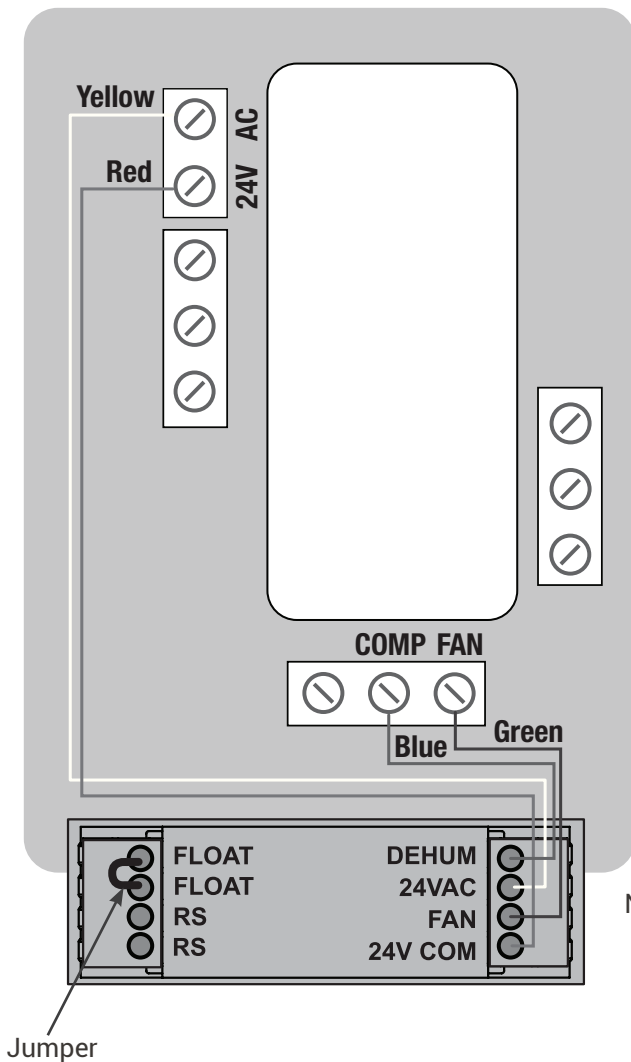


External Controller Options

Santa Fe offers several external control options such as the DEH3000, DEH3000R, and Honeywell Humidipro. These external controls are sold separately. This unit can also be controlled by any 24 volt rated normally open dry contact.

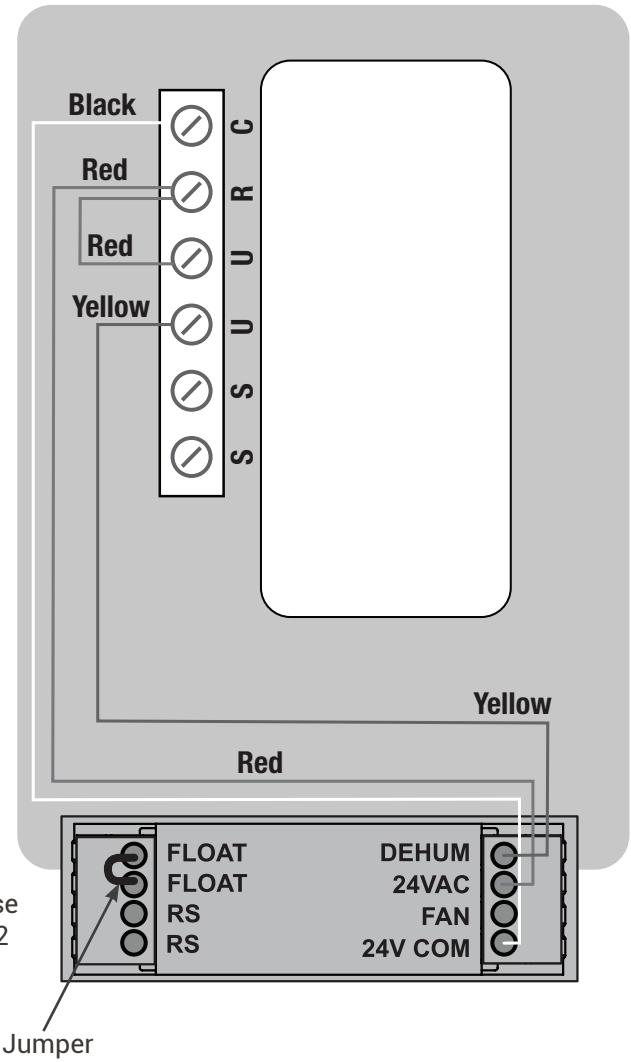
4028531

DEH 3000R Wiring Diagram



4041649

Honeywell Humidipro
Wiring Diagram



Note: Use 18 to 22 gauge wire.

On Board Power

This unit has a transformer that can supply 30 watts of 24V AC power. This power is used to power the onboard controls as well as any external accessories. This should accommodate up to two power dampers. See power requirements of dampers used prior to install.