



D21-P/D22-P:

A D22-P is essentially a D21-P with 2 power outputs instead of one.

Here are the steps to follow to test and troubleshoot these 2 boards:

The first step in testing the D21-P/D22-P controllers is to confirm that there is 24 VAC powering the board. (Top left connections on the board). The airflow sensor is a device that protects the heater element section from overheating. If there is a lack of proper airflow, the controller and the airflow sensor will make the unit modulate proportionally with the airflow. This simply means that, if the element section is getting half of the needed airflow, the heater will work at half the capacity. This prevents overheating of the elements which would damage them.

For testing purposes, remove the Airflow sensor from the terminals A and A. When that airflow sensor is removed, the

heater will still operate normally but without element protection (this is only for testing). Make sure you reconnect the airflow sensor after testing.

You then have to determine what the input signal is. If it is 0-10 VDC, force your signal to be 10 VDC to make the controller go full heat. If the input is AC/DC Pulse, send a pulse to make the controller go full heat. Make sure the little white jumper is positioned properly depending on the type of input provided (i.e. for 0-10 VDC, jumper on the left side and for AC/DC Pulse, jumper on the right side). If the red light is solid ON, the controller is good. If the red light stays off, the controller is defective and replacement is required.

Please note that these controllers have power outputs. It is possible after many switching cycles that the built-in triacs will stay stuck in a closed or open position. The control side of the board might still be good, but the power side will not operate. If the triacs are stuck closed, the thermal cut-outs will cut power to the unit. If the triacs are stuck open, the unit will not put out any heat even if there is a demand.

