

SZ-2DF/SZ4DF DISPLAYING A “C” CODE

If your controller is showing a “C” code (C1, C2, C3, C4) and clicking relays on and off:

The “C” code is the firmware code that displays when the board is first powered up. If the code continues to alternate with “ST”, then something is overloading the onboard power supply on the controller. This can be caused by several factors. If there is a short in any of the 24-volt thermostat wiring to the thermostats or the damper motors, it will cause this to happen. If a thermostat or damper motor develops an internal short, it can cause this to happen. Also, if the input transformer is not producing its full power, it can cause this to happen.

To trouble shoot the problem, disconnect the “R” wiring at the board to each thermostat. Disconnect the “C” wire going to the damper motors. If the code continues to appear, then the problem is either a weak transformer or a component on the board is going to ground. You can try replacing the input transformer and see if the problem clears up. If the board stays up with the thermostats and damper disconnected, then reconnect the “R” wire on the thermostats one at a time. If the board stays up, make a call from each thermostat. If the board stays up, reconnect the “C” wire to each damper. If during the reconnection of the wires, if the board goes into fault, check the last wiring connected for shorts. You also might have a damper actuator that is shorting internally.

When calculating the power required from the input transformer, add up all of the power requirements:

Zone Board – 10va

Thermostats – 3va

3-wire Damper Actuator – 3va

2-wire Damper Actuator – 10va

Size the transformer accordingly. You CANNOT power the board from the transformer inside the air handler. It is not powerful enough to power the whole system.

If none of the remedies corrects the problem, then the zone control board will have to be replaced.