

Short▲Finder Tool

1.) First, remove the power to the unit.

2a) If the system has a 24V fuse on the transformer's output, attach the *Short▲Finder* leads to the terminals where the 'blown' fuse was: (a) For plastic ATO style fuses, remove fuse and simply place each male tab into one of the fuse-holder terminals. (b) For inline fuses, open fuse holder and remove fuse. Using supplied alligator clip adapters, place each alligator clip on one of the fuse-holder contacts.

2b) If the system is not fused, you will have to break the transformer's 24VAC output wiring (preferably the 24V HOT side) and clip the *Short▲Finder* alligator clip leads to each side of the break.

3) Place system thermostat in "Off" mode and fan in "Auto" mode.

4) Now, power the system up. If the LED does not light, skip ahead to step 6.

5) If the LED is lit, it indicates a short is present. Finding exactly where the short is located is now just a matter of removing circuits, one at a time, and resetting the trip lever on the front of the *Short▲Finder* until the light stays off (it may take 20 seconds or so until the sensor cools enough to allow a reset). Start with the wiring going to the thermostat: remove the thermostat "Hot" wire from the board or terminal strip and reset. If the LED stays out - your problem is somewhere down that line, and you can further isolate it by reconnecting the wire and then removing connections further down the line, say at the thermostat itself.

When the LED stays lit, and can't be reset after 20 seconds, it is an indication that the short is still in the wiring connected to the circuit. To find the short, disconnect wiring until it stays out.

6) If the LED is not lit when the system is powered up, it means that the short is not presently connected to the circuits. It's either (a) an intermittent short, or (b) you need to activate the thermostat-controlled circuits, one at a time, until the short is found. For instance, if the short is in the wiring that activates the contactor in the condensing unit (possibly chewed by an animal) the short probably won't be seen until the 24V condensing unit line is activated. (Instead of running back and forth from the thermostat for each test, another Zebra Instruments tool - the *ZebraStat* - can make this process much quicker.)

7) Make certain that the Fan - Cool - Heat modes work properly and at a safe current draw before removing the *Short▲Finder Tool* and installing a new fuse.

8) If an intermittent problem is suspected, our *ZBreakers* may help to keep the system operating until the problem is present when a Tech is there to observe it.